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A sociological study, the text reports data concerning epilepsy and public provisions for the epileptic. The general state of persons with epilepsy is discussed in terms of definition, general conditions, etiology, recovery or improvement, numbers in the United States, trends in numbers, sex distribution, age distribution, age at onset, race and nativity, other defects, death rates, marital status, and amount of schooling. The following areas are also examined: the legal treatment of persons with epilepsy through legislation and judicial decisions; institutional provisions for persons with epilepsy, including organization of institutions, general regulations, work of institutions, costs, private benefactions, county and city institutions, numbers in regular day schools, numbers in institutions with mental defectives or mentally ill, and private institutions; and non-institutional provisions of employment, colonies, and parole. Public and private organizations concerned with persons who are epileptic are mentioned, and conclusions about work for persons with epilepsy in the United States are presented. Six appendixes provide data on habits of temperance, clinical diagnoses, discharge rates, ratios of residential placement by states, residential admissions by age and diagnosis, and admissions and separations from institutions. The bibliography contains 909 references. (DF)

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PUBLIC PROVISION
FOR
EPILEPTICS
IN THE
UNITED STATES

HARRY BEST

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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PUBLIC PROVISION FOR EPILEPTICS IN THE UNITED STATES

By
HARRY BEST

Author of
Blindness and the Blind in the United States
Deafness and the Deaf in the United States
Public Provision for the Mentally Retarded in the United States

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TO

those who have had a forlorn place among the sons of men, suffering under a peculiarly bitter fate, and cruelly misapprehended, but who have displayed a gallantry matching their condition

AND

to those, particularly in the medical profession, who with unflagging zeal have sought to better their lot if not to end it

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FOREWORD

The present work is designed as a scientific study of the condition of epileptics and of public provision made for them in the United States—along the lines of the sociologist or social scientist—strictly medical, pedagogical, or psychological aspects being largely out of its immediate purview, though these will necessarily have to be touched upon here and there throughout. Any research on this subject is sorely handicapped by the want of general statistical data at the present day in this country. Almost all that we have relates to epileptics in institutions, and even here they are only partial and incomplete, with some not always up-to-date—apart from the consideration that institutional life for epileptics in general is passing out, except for those with other affections or for those for whom no other provision is feasible.

In the statistical data in the annual reports on mental defectives (mentally retarded) of the National Institute of Mental Health, epileptics have until 1960 been included with some analysis of their condition. With changing conditions, much of what we shall have to consider is of rather historic interest. Such are employed in lieu of non-existent later data. They throw some light on certain conditions and characteristics of epileptics not to be found elsewhere. There is resort to earlier years when there is offered significant matter, or when there can be help for comparative purposes. Possibly those epileptics who have been in institutions present conditions not greatly different from those at large in the community, though perhaps representing cases of a more severe character or in a somewhat more advanced state.

Use has been made of whatever other statistical or other general data have been available. Space on different subjects will depend largely on the material at hand on those subjects. A reasonably accurate and complete enumeration of epileptics in this country, with report upon important matters concerning them, is something highly to be desired.

For what is set down the author must alone assume responsibility. For aid of one kind or another he would express his indebtedness to Mr. Maurice A. Melford, and Dr. Harry Sands, both of the Epilepsy Association of America.

Part I

GENERAL STATE OF EPILEPTICS

Chapter I

DEFINITION OF EPILEPSY

Epilepsy is mainly one of the neurological affections. It may be said to be a chronic, possibly progressive, disorder of the brain or nervous system, with recurrent paroxysms or convulsions. It is characterized by greater or less disturbances in the rhythm of the electrical discharges from the brain. Seizures are signs of abnormal release of energy within the brain. They are generally with loss of consciousness or of muscular control.

Seizures occur at varying intervals, generally of brief duration on their occurrence, and are for the most part abrupt, and without apparent cause. Involved are mental and physical reactions. There is usually loss or impairment of consciousness, with certain mental confusion, and attended with involuntary muscular movements or lack of motor co-ordination. Seizures may be of temporary, prolonged, or intermittent character. In time there may be occasioned mental deterioration, and perhaps physical as well.

Seizures may vary in frequency, duration, and severity. Occurrence may range from several times a day to only one in several months. Most often they continue for but a few minutes (possibly only one or two), with loss of consciousness possibly of greater length. In physical reactions the attacks may vary from mere twitching of the eyelids to violent trembling, shaking or jerking of the entire body, possibly with flinging arms. There may be contracting of muscles, facial distortion or discoloration, difficult breathing, dilation of eye pupils, fixed or closed eyes, foaming at the mouth (mostly from chewing of saliva), and tautness or rigidity of body. (Muscular rigidity is known as tonic, jerking as clonic.) A seizure may be preceded by what has been called an "aura," a sort of premonition or warning, perhaps in the form of a dizziness, tingling, twitching, or nausea.

By medical men epilepsy is in large part considered not so much a cause but a symptom of nervous disorder. It may follow some antecedent mental or physical disorder.[1] Living conditions may have some part in its appearance.

Perhaps the nature of epilepsy can best be set forth in quotations from some authoritative texts on the subject. A general definition of epilepsy is as follows:

> A chronic nervous disease, characterized in its pronounced form (*grand mal*) . . . by fits of general motor convulsions and loss of consciousness; in a milder form (*petit mal*) by momentary dizziness and loss of consciousness, and in a still vaguer form (psychic epilepsy) by blind excitement or by automatic acts. Distinct from epilepsy proper is Jacksonian epilepsy, due to local brain irritation, and consisting of motor spasms that start with a certain muscle group and become general. (*Webster's New International Dictionary*) A chronic disease of the nervous system characterized by convulsions, and often by unconsciousness; often called "falling sickness." (*New Twentieth Century Dictionary*, 1960)

Another general definition is as follows:

> A chronic nervous disease characterized in its more violent forms (*grand mal*) by paroxysms recurrent at uncertain intervals, attended by loss of consciousness and sensations, facial distortion, foaming at the mouth, convulsion of the limbs, difficult, stertorous breathing. . . . In the milder form (*petit mal*) there may be loss of consciousness without muscular spasm (or vice versa). . . . [Jacksonian or cortical epilepsy] is caused by disease of the cerebral cortex (with convulsion in certain groups of muscles, with consciousness retained) with only a part of the body affected. . . . [psychic epilepsy is where] the mental process is disordered (not necessarily involving convulsions). (*New Standard Dictionary*, 1939)

A medical definition is as follows:

> A chronic functional disease characterized by fits or attacks in which there is loss of consciousness, with a succession of tonic or clonic convulsions (continuous or alternating muscular contractions). . . . The fit lasts five to twenty minutes, and the attacks vary greatly in frequency. . . . [*Grand mal* is where] there are severe convulsions and loss of consciousness. The mild form [*petit mal* is where] vertiginous or other sensations take the place of convulsions. . . . Jacksonian epilepsy is marked by localized spasms, and is mainly limited to one side and often to one group of muscles. [Psychic epilepsy or epilepsia

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[1] Medical terms in respect to epilepsy may include such terms as cerebral dysrhythmia in relation to disordered brain waves, moving too fast or too slow, or paroxysmal convulsive disorders, perhaps symptomatic in character. On the types of epilepsy and their several subdivisions, see chapter on Etiology of Epilepsy (Clinical Diagnosis) and chapter on Epileptics by Age.

> larvata is where] the unconscious stage is very brief, and the movements, though automatic, seem to be voluntary. (W. A. N. Dorland, *American Illustrated Medical Dictionary,* 1944, p. 511)

From the same source the matter is later thus stated:

> Epilepsy is a disease characterized by one or more of the following symptoms: paroxysmally recurring impairment or loss of consciousness, involuntary excess or cessation of muscle movements, psychic or sensory disturbance, and perturbation of the nervous system. Symptoms are based upon a substrate of paroxysmal disturbances of the electrical activity of the brain. (*Ibid.,* 1957, p. 46)

Another medical definition is expressed in the following terms:

> A disorder of the brain, characterized by recurring excessive neuronal discharges, and manifested by transient episodes of motor, sensory, or psychic dysfunction, with or without unconsciousness or convulsive movements. . . . The seizure is accompanied with marked changes in recorded electrical brain activity. (*Blackiston's Gould New Medical Dictionary,* 1956, p. 408)

A third definition follows:

> The epilepsies are those conditions which are thought to arise from pathological or metabolic disturbances in the brain which are characterized by abnormal paroxysmal discharge of neurones producing convulsive movements, sensory vegetation, or psychic dysfunction with or without loss of consciousness. The neuronal discharge will usually arise from the central cortex, and in general cases will be included in a "diagnosis" category only if such episodes are recurrent . . . [excluded are fainting hysterical attacks, cardiovascular syndromes]. Convulsions of infancy or early childhood occurring in the presence of fevers are [retained, but dealt with separately]. *Grand mal* refers to those cases characterized by unconsciousness and a succession of tonic and clonic convulsions, usually of several minutes duration. At times these attacks are preceded by an aura or prodomal symptoms. . . . By *petit mal* we mean an episode of brief duration (seconds), usually with loss of consciousness and cessation of voluntary motor action, with or without falling, usually occurring in children and often associated with [other defects]. (from various medical authorities)

Still another definition appears in these words:

> [Epilepsy] is a condition characterized by recurring attacks, consisting in typical forms of sudden loss of consciousness accompanied by generalized convulsions which are at first . . . of tonic type . . . [and later] of clonic form, followed by some degree of stupor, the whole attack being sometimes preceded by an auditory, visual, olfactory, gustatory, cutaneous, visceral, or kinaesthetic sensation or hallucination. (*Faber Medical Dictionary* (C. Wakely), 1953, 145)

A final medical definition is thus expressed:

> Epileptic symptoms are as various as are the functions of the human brain. Epilepsy most commonly affects those parts of the brain that are in an immature, budding stage of development. . . . It is a dynamic disorder which changes greatly from moment to moment, from hour to hour, from year to year. . . . No matter what its broad manifestation, epilepsy results from brain disorder. . . . It is not a permanent disorder. (G. N. Wright, F. A. Gibbs, and S. M. Linde, *Total Rehabilitation of Epileptics—Gateway to Employment*, 1962, p. 1. See also *Encyclopedia of Mental Health*, 1962, ii, p. 269.)

A psychological definition is as follows:

> A convulsive disorder (or a condition of cerebral dysrhythmia. . . . The *grand mal* form has the following stages: aura (in many cases), tonic stage, clonus, and coma. In *petit mal* there is loss of consciousness for a brief period, temporary confusion, but seldom a fall. In the Jacksonian type there is twitching of a group of muscles. In the psychic equivalent there is a psychogenic convulsion. . . . Some *grand mal* seizures are followed by a furore; many are followed by a period of stupor. (P. L. Harriman, *New Dictionary of Psychology*, 1947)

Another psychological definition is as follows:

> A nervous disorder, usually chronic, with characteristic convulsions of sudden onset, a tonic spasm often with crying or arrest of breathing followed by clonic twitching, biting of tongue, frothing at the mouth, relaxation of sphincters (duration of one to three minutes), usually with unconsciousness, occasionally with mere aura or *petit mal* absences or epileptic equivalents. (H. C. Warren, *Dictionary of Psychology*, 1934, p. 94)

A psychiatric definition is as follows:

> [Epilepsy] refers to a clinical syndrome, to certain features of which is the epileptiform attack . . . not caused by organic disease or anomaly, but is best understood in terms of the psyche . . . characterized by sudden onset of convulsions, first tonic, then clonic. The whole attack lasts several minutes, and is generally followed by profound sleep or coma. . . . There are *petit mal* attacks, characterized by loss of memory or of consciousness of one's surroundings. (L. E. Hinsie and J. Shatzky, *Psychiatric Dictionary*, 1947, p. 200)

A legal definition is as follows:

> A medical term to designate a disease of the brain which occurs in paroxysms with uncertain intervals between them, and defined as a chronic disease of the nervous system, attended by brain deterioration which is progressive, congenital, and likely to be transmitted by marriage and childbearing, and is considered incurable; a chronic functional disease characterized by fits or attacks in which there is a loss of consciousness, with a succession of tonic or clonic convulsions (continuous or alternating muscular contractions). The disease is in the brain, and is generally organic, but it may be functional and symp-

> tomatic of irritation in other parts of the body. Epilepsy is not to be regarded as a form of insanity in the sense that a person thus affected can be said to be permanently insane, for there may be little or no brain aberration in the intervals between the attacks; but epilepsy may cause insanity, and temporary insanity in some cases follows the paroxysm, varying in different instances from the slightest aberration to most violent mania . . . the course of epilepsy is generally one of deterioration. (44 Corpus Juris 1945, p. 29; 32 Corpus Juris Secundum, 1954, p. 610. See also American Jurisprudence, 1941, § 118; Words and Phrases, 1952, p. 419)

A second legal definition may be given with respect to a contract by an epileptic person:

> A nervous disorder which seldom continues long without destroying the natural soundness of the mind, rendering the patient listless, and forgetful, indisposed and unable to think for himself, yielding without any will of his own to every outward influence, and finally sinking into hopeless futility or becoming incurably maniacal. The paroxysm may continue for minutes, hours, or days. While the disease is not of long duration, it is not of a character as to amount to habitual insanity; and hence in such a case the presumption is not in favor of the continuance of the incapacity to the time of the contract [when such is involved] . . . but the rule prevails that if insensibility or unconsciousness is not shown to exist at the time, the presumption is the party had sufficient capacity. (J. A. Ballantine, *Law Dictionary,* 1930, p. 439; *Words and Phrases,* 1930, p. 439; 1952, xviii, pp. 18, 419. See also Black's *Law Dictionary,* 1953, p. 322) In a later edition, there is a succession of cases indicating a connection of epilepsy with mental illness. See also *Hull vs. Slate* (248 Ala. 30, 26 So. 2d 566, 1915); *Gridley vs. Northwestern Mutual Life Insurance Co.* (11 Fed. Cas. 2, 1939). (I. Ray., Treatise or Medical Jurisprudence, 1853, 1873, p. 379; see chapter on Judicial Decisions)

Epilepsy is regarded as of several grades or degrees. The most severe is what is known as *grand mal,* the form most readily recognized. Here there may be rolling and jerking of eyes, rapid pulse movements, changing color of face, gnashing of teeth, laborious breathing, a possible piercing or shrill cry or gurgling sound, spasmodic movements, general agitation or convulsions of body, and most of all a falling (the "falling sickness"). The seizures may be followed by a drowsiness or stupor, or by headache or nausea. Unconsciousness may be prolonged, but seldom for more than half an hour. Seizures may occur from time to time, possibly once a month or oftener. Something like two-thirds of epilepsy is regarded as of this form. In institutions its proportion is several times as great as for other forms.

A less violent and less serious form of epilepsy is *petit mal,* involving a certain mental confusion or transient loss or cloudiness or blacking out of consciousness, or loss of muscular control, perhaps accompanied with vacant staring eyes, with twitching eyelids, with a nodding head, or with a sigh or gasp. There may be a slight giddiness or vertigo or fainting spell, with a jerking of body or arms, though with a fall occurring but seldom. There may take place a pause in one's conversation or movements or an interruption in one's general activities. Attacks are more frequent but less severe than with *grand mal,* though sometimes there may be development into it. *Petit mal* is to be found more often with children and adolescents, rather a childhood affection.

A third form of epilepsy is known as Jacksonian, sometimes called focal, of less extent and of moderate character. It is generally confined to one part of the body—partial epilepsy, so to speak, though it may extend to other parts; it may be accompanied with abnormal sensations. There may be here a lesion or pressure in the motor areas of the brain. Generally consciousness remains.

There is still another form of epilepsy called psychomotor or psychological, of mental rather than of physical character. Here there is little in the way of convulsions, but perhaps with slight headaches. One's actions may appear a little queer, as with blank stares, possibly with a certain forgetfulness or temper tantrums.[2]

In somewhat earlier years a distinction was made between convulsive disorder with psychosis and epilepsy without psychosis. In later years the two types have been those associated with acute brain syndromes and those associated with chronic brain syndromes.[3]

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[2] On the nature of epilepsy, see L. E. Hinsie and J. Shatzky, Neuropsychiatrics, i, 1951, p. 33; *Journal of Psycho-Asthenics,* x, 1906, p. 208; *Archives of Neurology and Psychiatry,* lxi, 1956, p. 447; Proceedings of American Association for Study of Feeblemindedness, 1907, p. 46. See also various medical works on subject.

[3] "Brain nerve cells become overactive from time to time, and, instead of charging and discharging electrical impulses in a regular manner, they are discharged in erratic explosions. A local disturbance of this nature can spread to neighboring areas, jump to distant ones or influence the entire brain." *Epilepsy Association Spokesman,* April 1965. What has happened is sometimes called an "irritation" or "electrical brainstorm." "Fits," or "spells," or "spasms" are terms sometimes applied to convulsions.

Chapter II

GENERAL CONDITION OF EPILEPTICS

Probably no people have to bear so grievous—and peculiar—a distemper and disorder as do epileptics. Except at certain odd junctures they are just like other people, quite as normal and for the most part quite as rational. The trouble is that they have been liable at some sudden moment to an unhappy seizure or convulsion. In consequence their lives have been spent under this impending calamity—uncertain, desolate, and heavy-hearted as to themselves, and more or less of a problem to their families and to their communities. In their homes, their schools, their industrial undertakings—in their daily lives—the victims of this untoward malady may have passed their days in morbid contemplation and under the fearful eyes of their neighbors and associates, under gross misconceptions on all sides, denied some of the rights of human existence, perhaps a source of danger to themselves and to others, with their singular and strange affliction ever in the offing.

Some epileptics may not be expected to have robust health or the fullest vitality, though the matter varies among them as individuals.[1] A portion are neither physically nor mentally sound.[2] Some are better off than others. Many are quite normal except for their epilepsy. Until recent years for a considerable segment of the epileptic population institutional treatment was in order. As we are to see, such is now largely passing.[3]

In popular opinion epilepsy has often been associated with some mental disorder—with mental defectiveness, or even with mental illness, something that further serves to cause their alienation to a greater

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[1] Life insurance companies for the most part insure epileptic persons who otherwise meet their qualifications. This is especially the case when seizures are under control, are not recent, or when they have employment and can pay the premiums themselves. In some instances an increased premium may be called for. Accident and health insurance are more difficult to obtain than life insurance. (From interviews with certain insurance companies.) See *Neurology*, vii, 1957, p. 259.

[2] On the physical condition of epileptics, see *Journal of Nervous and Mental Diseases*, lxxv, 1932, p. 382. See also chapter on Extent of Other Defects Among Epileptics and chapter on Death Rates Among Epileptics.

[3] Epileptics are eligible to benefits from Social Security provisions in three forms —those for crippled children, child welfare, and maternity and child health. For permanent ill condition benefits may extend even beyond eighteen years of age.

or less extent. As a matter of fact, with epileptics there is a wide range of intelligence, just as there is with the general population. The large number may be regarded as of average intellect. A certain segment are entitled to a rather high rating. It is true nonetheless that the proportion below par is somewhat larger than is the case with the general population. In certain cases there may be progressive mental deterioration. The condition is usually the more serious in cases with the lowest intelligence. It has been estimated that about two-thirds of epileptics are at least of normal or average intelligence, with about one-fourth slightly below, and one-tenth decidedly below. Taken altogether, epileptics do not quite reach the general population in mental capacity. The matter has been stated: "Epileptics are similar to the general population in the range of intelligence . . . but the mean intelligence quotient for the epileptic groups tested is lower than for the general population."[4] In an investigation by neurologists of epileptics outside of institutions, 1.8 per cent were found above normal, 62.3 per cent normal, 22.3 per cent slightly subnormal, 11.8 per cent definitely deteriorated, and 1.8 per cent markedly deteriorated.[5] In another investigation, of children in a hospital, there appeared to be 19.3 per cent of superior intelligence, 36.8 per cent of average intelligence, 19.4 per cent dull normal, 5.8 per cent borderline, and 18.4 per cent feebleminded.[6] Always to be remembered are differences among individuals.[7]

While on the whole the general health of epileptics may be somewhat below par, there are some whose physical condition, apart from epileptic tendencies, may be quite sound. They are to be given as normal a life physically as their state will permit. They are to engage in various forms of recreation and pastimes, except those that may have a bearing on their peculiar condition. To be avoided in general are such exercises as swimming, high climbing, or bicycling in frequented ways.

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[4] R. Pintner, J. Eisenson, and M. Stanton, Psychology of Physically Handicapped, 1941, p. 305.

[5] *American Journal of Psychiatry*, xcviii, 1942, p. 734.

[6] *Genetic Psychology Monographs*, xvii, 1935, p. 309.

[7] One-half of epileptics have been said to be average, one-fourth above, and one-fourth below. *Journal of Consulting Psychology*, xv, 1951, p. 393. Of superior intelligence have been found to be one-fifth, of average a little over one-third, of low over one-sixth, and with 5 per cent borderline. *Journal of Pediatrics*, xxxix, 1951, p. 776. In another estimate three-fourths are said to be of average intellect and one-fourth below, one-tenth being considerably so. W. G. Lennox, Science and Seizures, 1941.

To add to the discomfort and hardships which their affliction has imposed, epileptics have had to stand various misconceptions regarding them on the part of the public. Included in the characteristics sometimes ascribed to them have been aloofness, solitariness, taciturnity, moodiness, moroseness, sullenness, obstinacy, irritability, depression, resentfulness, sensitiveness, suspiciousness, deceptiveness, impulsiveness, aggressiveness, emotional instability, uncertainty of themselves, difficulty in getting along with people, and even tendencies to violent rage or to cruelty.[8] Doubtless in certain cases some of these things have been in evidence—in considerable part a reaction to the treatment they have received from their fellow men.[9] So far as a certain evasiveness may be found among some epileptics, this is largely to be accounted for as a sort of recoil to what they have had to experience. There has even been said to be an "epileptic personality," though the differences among individuals are so great that there is little support for any such conception.[10] At the same time a certain mystery has attached to the disorder.

A foremost misconception has lain in the frequent identification or equation or linking up in some areas of epilepsy with mental unsoundness, something to which attention has just been called. While a considerable proportion of epileptics, as we have found, have been in this condition, many who are not have been so regarded and made to feel so. No small portion of the public has been of the belief that epileptics generally have their intelligence affected or are to be classed with the mentally defective or even with the mentally ill—a belief furthered and stimulated by the former frequent placing of epileptics in institutions with one or the other of these groups. Sometimes epilepsy has been looked upon as a species of mental defectiveness. In earlier census reports it was looked upon as a division of insanity.[11]

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[8] Illustrations of conceptions that have been held have been given as follows: Some epileptics are "characterized by an egocentric, selfish, seclusive personality with explosive emotional bursts." R. N. Grinker and P. C. Bucy, Neurology, 1951, p. 856. "Epileptics are self-centered, subject to outbursts of temper, and often moody and peevish." *Archives of Neurology and Psychiatry*, xxxiii, 1934, p. 723. See *Journal of Nervous and Mental Diseases*, lxxix, 1934, p. 377.

[9] By institutions for epileptics it is advised that no deception should be practiced when they are sent there. If so, they remain with suspicion and resentfulness.

[10] "If I wished to show a student the difficulties of getting at the truth from medical experience, I would give him the history of epilepsy to read." Oliver Wendell Holmes, Medical Essays, 1911, p. 192.

[11] In a public opinion poll in 1959 it was found that 18 per cent of those expressing an opinion objected to the association of their children with epileptics; that

In legal literature, particularly encyclopedias and reference works (including American Jurisprudence, Corpus Juris, American Law Reports, and the American Digest System), epileptics have for the most part been treated along with the mentally ill or with the mentally defective, or with "incompetents" generally, there being little separate treatment afforded or under titles applying only to them. In the statutes of some states epileptics may have been classed with the insane or mental defectives, and in a few with inebriates or other untoward or adversely affected groups as well. In publications of a public welfare or social welfare nature there has often been like characterization. A somewhat similar classification is to be found in the catalogues of some libraries, both general and special. An instance of the way that epileptics have been held in past years is to be found in a sociological work: "The classification of mental defectives as here considered includes idiots, imbeciles, morons, and epileptics."[12] In another work in connection with the matter of heredity there have been mentioned "epileptics, inebriates, and other degenerates."[13] With time, however, such characterizations are found to a less extent.

There has been a belief in some quarters that epileptics suffer moral deterioration and are rather given to crime—that with some there are tendencies or proclivities in this direction. In an American textbook on criminology the following has been set forth:

> The celebrated Italian criminologist, Cesare Lombroso, thought of the epileptic as a potential criminal—that there was such a thing as an "epileptic criminal." Some of his remarks were as follows: "The complete identity of the epileptic born criminals and the morally insane becomes evident as soon as we study their psychology. . . . Epilepsy has a disastrous effect on the character. It destroys the moral sense, causes irritability. . . . The connection between epilepsy and crime is one of derivation rather than identity. Epilepsy represents a genus of which criminality and moral insanity are the species. . . . The born criminal is an epileptic because he possesses characteristics peculiar to himself. . . . [He] is an epileptic inasmuch as he possesses the anatomical, skeletal, physiognomical, psychological, and moral characteristics peculiar to

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13 per cent believed that epilepsy was a form of insanity; and that 45 per cent (later 60 per cent and 70 per cent), favored the employment of epileptics. The larger number favored education of epileptics in regular schools. By the better educated, city dwellers, and the younger more sympathetic views were entertained, and to a greater degree than was the case in a poll ten years preceding. *Epilepsia*, i, 1960, p. 385. See also *ibid.*, iv, 1940, p. 19; iii, 1954, p. 99.

[12] R. W. Kelso, Science of Public Welfare, 1938, p. 309.

[13] A. G. Warner, American Charities and Social Work (revised), 1942, p. 168.

> the recognized form of epilepsy. . . . The epileptic origin of crime explains many characteristics of the criminal the genesis of which was previously obscure. . . . The born criminal is epileptic, not, however, afflicted with the common form of the disease, but with a special kind. . . . We have therefore an epileptic *sui generis*, a variety of epilepsy, which may be called criminal.[14]

Another comment is as follows:

> Crimes of personal violence, the counterpart of an irritable nature and passionate emotion, and lack of imagination, are more frequent among epileptics than other crimes that involved elaborate planning beforehand. . . . The epileptic mood is an exaggerated sensitivity to slight provocation, a readiness to break out into paroxysms of anger and rage. . . . His inferiority leaves him grouchy, resentful, suspicious, accusatory, disposed to direct action. . . . The epileptic is beyond the pale of normality not only just while he is suffering acute onset of his seizure, and during a few days before and after, but the epilepsy most probably persists throughout the intervals between the attacks. . . . The consensus of opinion is that he is always "on the hair-trigger" with relation to the trying, irritating situation in everyday life.[15]

In another work the following assertion has been made:

> One of the characteristics of epilepsy, indeed emphasized by various psychiatrists, is that frequently it leads to the loss of those forms of self-control which are absolutely indispensable to morality and the safety of society. Cruelty, atrocious sex offenses, and other vicious crimes are the result. It is a noteworthy fact, moreover, that it is often in the milder form of the affliction . . . that the greatest amount of mental and moral deterioration and fluctuation is found.[16]

In the Dictionary of Philosophy and Psychology it is said of epilepsy that "its prevalence among criminals has been frequently noted."[17] In an investigation of 1000 juvenile delinquents there were declared to be 6.7 per cent who were epileptic, with possibly 1.8 per cent in addition.[18] Without doubt the extent of criminality among epileptics has been much over-drawn, with all the factors involved not presented. There is need of careful, scientific measurements in the matter. It is to be noted that in later days there is relatively little said of epilepsy in connection with crime.

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[14] See C. Lombroso, The Criminal Man, ed. 1911, pp. 52, 69, 74. See at the same time A. Drähms, The Criminal, 1900, p. 118; H. Ellis, The Criminal, 1907, p. 178.

[15] R. H. Gault, Criminology, 1937, pp. 185-187. See also *Journal of Criminal Law and Criminology*, xcii, 1926, p. 218; *Journal of Nervous and Mental Diseases*, cxxxiii, 1961, p. 430; P. W. Tappen, Crime, Justice, and Correcting, 1960, p. 128; A. E. Fink, Causes of Crime, 1941, p. 41; C. Mercier, Criminal Responsibility, 1926, p. 115; L. Binet, Juvenile Delinquent, 1943, p. 267; J. L. Gillin, Criminology and Penology, 1935, p. 91; D. R. Taft, Criminology, 1943, p. 85; S. Glueck, Five Hundred Criminal Careers, 1930, p. 150; American Prison Associates, Prison Standards, 1954, p. 116.

[16] M. F. Guyer, Being Well Born, 1916, p. 372.

[17] J. M. Baldwin, 1911, p. 331.

Another evaluation of the epileptic has been as follows:

> The classical epileptic is apt to be morose, irritable, suspicious, and hypochondriacal. He is quite characteristically unreliable, and with it all presents a very aggressive form of sentimental, shallow religiosity. . . . He is egocentric to a very considerable degree, paying great attention to himself, his state of health, his physical comfort, and his immediate surroundings. His interests all tend to be concentrated on his egocentric constellation.[19]

In a psychological journal this language was once used: "There is strong intimation that *grand mal* epilepsy impairs the moral judgment to a large degree. . . . Epileptics have little ability in abstract reasoning and tests of common sense elicit grossly inadequate responses."[20]

Not only has the epileptic had to face a world of misapprehensions on the part of the public with which he lives, but along different lines his way towards a normal life has been blocked by the treatment that has been extended to him. His condition may have stood in the way of his getting married and having a family and home. (If without undue seizures, there is no great risk.) In some of the states, as we are to see,[21] along with several other classes of "unsound state" the law has expressly forbidden his marrying; in certain states epileptics have been included among those to whom sterilization may be applied—though in both these respects the number is now steadily decreasing. In the law there are other instances of discrimination toward him, though sometimes for his protection or that of the state.[22]

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[18] W. Healy, Individual Delinquent, 1915, pp. 42, 116, 147, 415. Among English prisoners 2.6 per cent were found epileptic. C. Goring, The English Convict, 1913, p. 221. In the United States census report, Dependents, Defectives, and Delinquents, 1880, of epileptics in institutions for the insane, 4.2 per cent were said to be "suicidal," 9.2 per cent "homicidal," and 4.2 per cent both, as against 1.9 per cent, 3.4 per cent, and 1.7 per cent for the general inmate population. See also Indiana Bulletin of Charities and Corrections, 1930, p. 95; *Fortnightly Review*, xiv, 1893, p. 343; *Journal of Mental Science*, lxvii, 1905, p. 295.

[19] S. E. Jeliffe and W. A. White, Diseases of the Nervous System, 1923, p. 954. See also F. A. Moss and T. Hunt, Foundations of Abnormal Psychology, 1932, p. 80; E. E. Southard and M. C. Jarett, Kingdom of Evils, 1922, p. 469.

[20] *Journal of Abnormal and Social Psychology*, xxx, 1936, p. 418.

[21] In certain instances there may be questions as to the ability of the epileptic to care properly for children.

There is often met difficulty with the epileptic in securing remunerative employment, both in the professions and in manual labor, although in some ways he may be well equipped, perhaps quite competent or even skilled.[23] There may be a certain reluctance to deal with epileptics on the part of employers, fellow-employees, and customers of a business house. There is now to him not only deprivation of possible earnings, making him more or less dependent on the bounty of others, but there is imposed a forced idleness, which all too often has an effect on his condition, perhaps accelerating it.

If the epileptic desires to drive a car, he may find that the law interdicts this activity. In most of the states he is specifically forbidden by the law, or he is included with persons of unsound mind generally. Not often is exception made for those individuals who might safely be qualified. The tendency, at least in some states, is to permit driving if seizures are under control, and one is under a doctor's care.[24]

Because of the fear or misgivings entertained toward epileptics their attendance at public gatherings or at places of public entertainment may not be welcomed. Associations and contacts with religious or social organizations are more or less throttled or restricted. In serious cases or with those liable to seizures a problem is created for children at their schools, with possibly special arrangements having to be established.[25] Children with epilepsy may sometimes be excluded from summer camps.

By certain institutions of higher education the presence of epileptics has not been encouraged; possibly they will not be accepted. Today, however, for the most part, if otherwise qualified, they will be accepted. In an investigation at one time it was found that in slightly over one-half of such institutions there was no fixed rule on the subject; with slightly over one-fourth there would be consideration of individual cases or conditional admission; and with a little under one-fifth there would be denial. In another investigation a little over one-half had no policy on the subject, a little over one-fourth would accept on condition, and a little over one-sixth would decline. In other investigations the great majority were found willing to accept with or without conditions. The same has been found with some schools.[26] With time the situation in this respect may be expected to improve.

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[22] Of automobile accidents much less than 1 per cent have been attributable to epileptic drivers.

[23] See chapter on Employment Possibilities of Epileptics.

[24] See chapter on Legislation.

[25] See chapter on Day Schools.

To his family in some cases the epileptic may be a continuing problem, a source of worry besides something of a burden. He may be an object of solicitude and anxiety, and also extra trouble and expense—though in some families he may receive too much protection and kept too much from the usual activities of life. He may even be a source of embarrassment, there being a desire to conceal his existence, at least from strangers. (Parents may feel sort of a sense of guilt in having such offsprings). Outside the family and in the community he has no less remained a question or dilemma. If the epileptic child goes to school, there cannot always be expected complete adjustment with him or with his schoolmates. If he is so fortunate as to have a job, he may be eyed with suspicion or fear. He may have to receive extra attention from welfare agencies or from the courts. In all walks of life he finds more or less of a barrier in his path. In his general relations and contacts with others the epileptic may constantly be reminded of his strange unnatural position. Because of his condition and because of the attitudes towards him his must be a more or less secluded existence, though some may live a more quiet and normal life than others. They have to put up with misunderstandings and misconceptions on the part of the public, as we have seen. They may have to look into an unfeeling and perhaps unfriendly world. Their presence may be disconcerting and disturbing to others. Instead of a sympathy which should be theirs, they must too often meet feelings of aversion or apprehension; they may be shunned. Sometimes, not being able to protect themselves, they may be dangerous to themselves, if not to others. They may be looked upon as a sort of menace, and perhaps to be committed to an institution. Not only may they be denied the solace of pleasant companionship that would mean much and be a great help to them; they are too often left quite to themselves. At times they have been teased, mocked, and tormented by unthinking or cruel associates. They can become a sort of social outcast; a sort of social ostracism.

If in consequence of all this some tend to become aloof and morose, the blame may not be wholly theirs.

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[26] See Proceedings of American Association for Research in Nervous and Mental Diseases, 1941, p. 39; *Mental Hygiene*, xx, 1940, p. 459; *Epilepsia*, iii, 1949, p. 192; *Journal of American Medical Association*, clxix, 1949, p. 1982; clii, 1953, p. 1691; *Exceptional Children*, xxii, 1956, p. 147; *Horizon* (National Epilepsy League), May 1962. Parents may object to their children's association with epileptics.

An untoward by-product of a condition of epilepsy lies in the effect that it may have upon the general character of the one suffering it, as before hinted. Self-confidence may in large part be impaired if not lost. The feeling of aversion or rejection or pity on the part of one's fellows, a sort of social ostracism, sometimes almost as serious as the seizure itself, may intensify any existing emotional disturbance. The very existence of the epileptic condition is something that may lead in greater or less degree to the practice of deception in certain situations, a thing always with unhappy results. One may not wish or care to reveal his condition. One may be so sensitive as to it or so apprehensive as to possible discrimination or prejudice toward him in consequence of it, that he may seek to conceal it, or even to falsify as to it. To avoid having this condition known, he may fail to have consultation with his physician and thus forego the medical attention which might be of much benefit or the treatment of which he is so greatly in need. Even though the law may direct that he make report to the health or medical authorities of his community, he may refuse to do so of his own volition. To get a job or to hold a job, he may try some artifice or subterfuge to keep his employer or the public from knowing; he may dissemble or otherwise endeavor to avoid detection. In some cases, in fear of being denied a license to drive an automobile, he may misrepresent his condition or otherwise circumvent the law—with the result that there are now greater risks of accidents from his driving.

Unless in an institution where the peculiar needs of the epileptic are given attention and he is afforded the care and treatment he requires, or is given these things in his home, he must continue his existence without aid or benefit. With the abnormal life he has had to live, and with the attitudes toward him which he has to meet, there can often hardly be expected other than an experience of gradual deterioration.[27]

Matters have been made worse for the epileptic from possible squalid or unsavory home surroundings in which he may have to live. Impecuniousness of parents may have kept him from having the medical attention or treatment of which he is so much in need. If proper care and attention cannot be afforded the epileptic in his home or community, he may have had to find his way to the ranks of public charges, or to an institution designed for mental defectives or for the insane, in which he has no proper place.

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[27] Certain instances of epileptics in fiction are to be found, among others in George Elliot's "Silas Marner," in Charles Dickens' "Our Mutual Friend" (Bradley Headstone), and in Dostoievski's "The Idiot."

The condition of the epileptic in society was once thus described:

> The epileptic holds an anomalous place in society. As a child he is an object of solicitude to his parent or guardian. The street to him is full of danger, and if sent to school he is liable to seizure on the way or in the classroom. At school his attacks shock his classmates and create confusion. He cannot attend church and public entertainments, nor participate in public gatherings with those of his age and station. Because of his infirmity the epileptic grows up in idleness and ignorance, bereft of companionship outside of his family, and friendless he silently broods over his isolated and hopeless condition. If the epileptic succeeds in learning a trade, business men are reluctant to employ him, and artisans will not work with him.[28]

Epileptics have been called "the most helpless and neglected class which comes within the reach" of mankind.[29]

It is to be added that the social barriers with respect to epileptics, the conceptions or misconceptions, and discriminatory practices that have been mentioned, are slowly giving way in our society with the passage of time, though with some people and in some areas they still remain in greater or less part.

Though we have no great reason to think that epileptics are more likely to be found in one area than another, it is possible that with more accessible medical facilities in cities they are relatively fewer there. In institutions, however, a larger number may have come from urban centers than from rural regions, doubtless in part for the reason that institutions have more often been in states with large city populations, in some cases with institutions located not far from such centers.[30]

In an earlier census report (1933) there are given the percentages of male and female first admissions to institutions according to the economic conditions of the homes from which they have come—dependent, marginal, or comfortable. While the figures here are largely those of the families concerned or upon general observations or estimates, they do doubtless in some measure reflect actual home conditions of those entering institutions for epileptics. Only a very small proportion (8 per cent) are reported as in comfortable circumstances, probably less than is the case with the general population. The great number are from homes of low economic levels, in part because of inability of their families to secure proper and prompt medical attention.

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[28] W. P. Letchworth, Care and Treatment of Epileptics, 1900, p. 17. "People think of the epileptic as one with gross brain damage, psychologic peculiarity, and mentally retarded." Department of Health, Education, and Welfare, Total Rehabilitation—Gateway to Employment, 1962.

[29] Proceedings of American Association on Mental Deficiency, 1886, p. 423.

[30] In an earlier census report (1933) of admissions to institutions 59.8 per cent were of urban residence and 30.2 of rural.

In almshouses in former years epileptics were found to constitute an appreciable proportion of the inmates. In 1923 this was said to be 13.7 per cent.[31] In previous years the proportion was similar. With the disappearance of the almshouse, this form of care is no longer to be had.[32]

Note to Chapter II.—On intelligence and possible education of epileptics, see J. M. Hunt, Personality and Behavior Problems, 1944, ch. 31; E. M. Bridges, Mental State of Epileptic Patients, 1934; E. E. Sullivan and L. Gahagan, On Intelligence of Epileptic Children, 1936; D. Houken and C. C. Hare, Genetics and Intelligence of Neurological and Psychopathic Patients, 1954; N. B. Henry, Education of Exceptional Child (National Society for Study of Education), 1950, p. 219; Proceedings of Association for Research in Nervous and Mental Diseases (International League Against Epilepsy), 1946, p. 607; 1947, pp. 539, 586; Bulletin of New York State, Board of Charities, Eugenics and Social Welfare, no. 7, 1916; no. 9, 1917.

Genetic Psychology Monographs, xvii, 1935, no. 5; California Institute of Technology, Symposium on Cerebral Mechanism Behavior, 1948, p. 246; *Journal of Genetic Psychology,* xix, 1932, p. 69; *Pedagogical Seminary,* lxxviii, 1951, p. 145; *Pediatrics,* xvi, 1904, p. 665; *American Journal of Diseases of Children,* lv, 1938, p. 295; *British Journal of Medical Psychology,* iv, 1924, p. 235; *Psychiatric Quarterly,* iii, 1928, p. 542; xix, 1932, p. 89; *Mental Hygiene,* xxiv, 1940, p. 436; *Exceptional Children,* xxii, 1956, p. 1617; *Archives of Diseases of Childhood,* iv, 1929, pp. 142, 151; *Journal of Mental Science,* l, 1904, p. 662; lxxix, 1933, p. 688; xciii, 1947, p. 82; cvi, 1960, p. 1042; *Journal of Psychology,* xi, 1941, p. 359; *American Journal of Orthopsychiatry,* xvi, 1946, p. 2024; xviii, 1948, p. 65; *American Journal of (Insanity) Psychiatry,* xciv, 1937, p. 251; xcviii, 1942, p. 763; ci, 1945, p. 764; *Journal of Public Health and Physical Education,* xix, 1948, p. 597; *Epilepsia,* iii, 1912, p. 504; iii, 1947, p. 223; *Archives of Psychology,* no. 263, 1941, p. 77; *Psychological Bulletin,* 1916, p. 187; *Journal of Abnormal and Social Psychology,* xlvi, 1951, p. 336; *Archives of Pediatrics,* xxiv, 1907, p. 510; xxvii, 1911, p. 23; *Journal of Nervous and Mental Diseases,* xxxvi, 1946, p. 604; *American Journal of Crippled Child,* i, 1914, p. 82; *Archives of Neurology and Psychiatry,* xxvii, 1932, p. 129; xxxii, 1934, pp. 223, 723, 767; xlv, 1945, p. 797; xlviii, 1947, p. 617; lv, 1951, p. 545; lx, 1953, p. 424; *Journal of American Medical Association,* cii, 1953, p. 1640; *Journal of Consulting Psychology,* xv, 1951, p. 393.

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[31] In "Homes for the Homeless in Tennessee," 1951, p. 16, by W. E. Cole and R. R. Dynes, 0.5 per cent in such homes were epileptic.

[32] In Appendix A is given the percentage distribution of first admissions of each type of epilepsy to public institutions according to temperance habits for 1933, and in condensed form for 1923.

Chapter III

CAUSATION OR ETIOLOGY (CLINICAL DIAGNOSIS) OF EPILEPSY

Just as the nature of epilepsy is not fully understood, so is its causation or etiology. A variety of disorders of mind or body have a part. There may be internal or external factors involved, some of complex order. A greater or less portion has its origin in some inflammatory condition of the brain or nervous system, in cerebral malformations or intra-cranial lesions or disturbances, in imperfect adjustment of the brain structure, in brain tumors or abscesses, in abnormal functioning of some organ in relation to the brain or nervous system, in metabolic or chemical changes in the brain, in some modification of the nervous system, in insufficient oxygen or blood supply in some part, in traumatic action or physical impact on the brain or nervous system, in pressure on the brain, in the scarring of the tissues of the brain, as the sequela of some disease affecting the brain or nervous system, of some general bodily disorder, or of some severe or acute illness, perhaps an infectious one (including meningitis, measles, whooping cough, etc.), or in the low sugar content of the blood, in some glandular disturbance, in certain toxic conditions (as alcoholic), in some disorder as apoplexy or rheumatic or paralytic fever, in gland or kidney disorders, in digestive or gastro-intestinal diseases, or in defective dentition. Injuries to mothers in gestation may be involved. Malnutrition may enter the picture. Conditions may be called up or precipitated or aggravated by such things as worry, anxiety, excitement, fright, overwork, dissipation, loss of sleep, mental troubles, emotional disturbances or upsets. Factors may be multiple: they may be in combination. They may be of genetic character.

Heredity may play a certain part in the causation of epilepsy—though its full part we have no means of determining. There are families that may be deeply affected with some neurological or psychiatric disorder. Sometimes it is found in parents or in more remote ancestors, passing from generation to generation, though in a particular one it may be latent, not reappearing till a later one. Traces may be discerned in relatives with some neurotic trouble or with some mental disturbance. The existence of such condition in some relative is often a criterion of its presence in a given family stock. When both parents are affected, the chances are enhanced of a like condition in the offspring. If the condition in the parents is of a purely adventitious nature (and there are no relatives affected), there is little chance of like condition in the offspring.

As a general thing, it is not epilepsy so much that is directly inherited, but a tendency or predisposition or susceptibility to it when under certain conditions it manifests itself. There is here involved a well-known principle: a given defect may not in itself be transmitted, but certain characteristics which may lead or pave the way to it. Conditions that present themselves in the environment may have something to do with the existence of epilepsy in a particular individual.

Consanguineous marriages may have some slight effect upon the inheritance of epilepsy, though we have no means of knowing to what extent; few cases are definitely known. There is involved here a law of wide application, which holds true with respect to epilepsy no less in the matter of close inbreeding in general. A given strain, whether mental or physical, is more likely to show itself when parents are related, perhaps possessing the same tendency, latent or manifest, toward the defect in question. In other words, in blood relations who happen to be with this or a kindred trouble, the possibilities are intensified or are correspondingly enhanced of the transmission of a particular characteristic or family strain or of the offspring acquiring it.

Some estimates have been made as to the extent of epilepsy that is with hereditary bearings. In past years estimates could be rather high, perhaps with one-third or one-half so regarded, or at least with a family history of epilepsy. In later years estimates have been greatly reduced, at times to only a few per cent.[1]

From what limited statistics we have, we learn that the incidence of epilepsy is several times as great in families with epileptic members as in other families. In certain investigations (in part composite here) it has been found that of children born to epileptic parents, 2.8 (sometimes stated as 4.0) per cent are likewise epileptics, as against 0.5 per cent for the population in general. Of relatives of epileptics (generally in the family), 2.5 per cent (sometimes given as 2.3 or 2.7 per cent) are subject to seizures. It would appear that epilepsy is five times as likely when it is in the family as when it is not (1 out of 40 as against 1 out of 200). If both parents are epileptic, then in case of brain injury the percentage for near relatives is 1.4; without brain injury, 3.0 (sometimes 3.6). In case epilepsy occurred in infancy the percentage is 7.6; in case it occurred after thirty years of age, it is 1.5. The average number born to such parents is 0.59. Where epilepsy occurred before ten years, the percentage is 0.15; where it occurred at twenty or after, it is 1.04. Of married epileptic parents the number of children born is 1.28 (hardly half that for the general population). Where epilepsy occurred under ten years of age, the number is 0.66; where it occurred from ten to nineteen, it is 1.1; and where it occurred at twenty or after, it is 1.5.[2] There are somewhat similar results from other investigations.[3]

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[1] On relatively high proportions see J. R. Reynolds, Epilepsy, Its Causes, etc., 1868, p. 124; W. R. Gowers, Epilepsy and Other Convulsive Disorders, 1901, p. 540; G. E. Cheverria, Epilepsy, 1870, p. 1932; L. Hogben, Genetic Principles in Medicine and Social Science, 1931, pp. 240, 951. See also M. W. Barr, Mental Defectives, 1913, p. 213; New York State Board of Charities, 1907, i, p. 104; *British Medical Journal,* 1910, i, p. 733.

In present-day terminology causes of epilepsy are not listed as such, but rather as "clinical diagnoses," which have reference to the etiology of the organic nervous or other diseases or disorders accompanying epilepsy and which are set down to somatic, nervous, or other conditions, and also to conditions in known relation to other factors that are found in the cases under examination. Epilepsy is to be regarded as of two types. One is known as symptomatic, where there is association with disease process, toxic condition, or structural defect. The other is known as idiopathic, where there is no such association, the cause or origin not being determined. Some cases looked upon as of the idiopathic type may later be found to be of the symptomatic.[4]

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[2] See W. G. Lennox, Science and Seizures, 1941, p. 99; J. V. Hunt, Personality and Behavior Disorders, 1944, p. 946; *American Journal of Psychiatry*, ciii, 1947, p. 457; *Journal of American Medical Association*, cxlvi, 1951, p. 529; cxlix, 1952, p. 1361; clii, 1953, p. 1690.

[3] Of inmates in the Michigan institution one-sixth have been asserted to have a family history of epilepsy, and about one-half with families having some defect, one-half epilepsy and one-fourth insanity, perhaps indicating instability or deficiency in some families (mostly based on statements of those affected). *Mental Hygiene*, xx, 1936, p. 441. An earlier statement was that 18.1 per cent of epileptics had members of their families with seizures. *American Journal of Psychiatry*, lxxxix, 1934, p. 989. In one investigation it was found that with 3.9 per cent of cases of epilepsy there was more than one member of the family with a hereditary defect, and with 5.8 per cent epileptic in some member of the family, and that one-eighth of the offspring of epileptic parents were themselves epileptic. *Boston Medical and Surgical Journal*, clxxiii, 1915, p. 469; clxxiv, 1916, p. 823. In one investigation 2.7 per cent were found to have near relatives epileptics, with 1.7 per cent in addition having mentally affected. *American Journal of Psychiatry*, ciii, 1947, p. 457. It has also been brought out that among near relatives, of epilepsy between 2 and 3 per cent may be expected to be subject to seizures, as against less than 1 per cent of the general population. Expectation of epilepsy is five times as great among immediate members of a family as in the general population.

As now given professionally the principal clinical diagnoses are as follows: A. Symptomatic—(1) toxemic exogenous, occurring from some external condition or of external origin, including poisoning from alcohol, lead, etc.; (2) toxemic endogenous, occurring from some internal condition or of internal origin, including renal (or kidney) disorders, pregnancy and puerperal disorders; endocrinopathic disorders, resulting from abnormality in one or more endocrine glands or certain secretions passing into the blood stream; metabolic disorders, or chemical changes in living cells, and involving energy in repairing wastes ("synthesizing food stuffs into complex elements and complex substances into simple ones in production of energy"—Gould Medical Dictionary); (3) disorders due to definite brain disease, including cardio-vascular (having to do with the heart or blood vessels), syphilitic, meningo-encephalitic (inflammation of brain or brain membrane), neoplastic (morbid new growths or tumors), traumatic (from physical injury), ageneses (sterility or incomplete development): B. Idiopathic—one form being with psychogenic factors (or originating in the mind).[5]

In the following table is given the percentage distribution of residents of and of first admissions to public institutions for epileptics, and of first admissions to private institutions, according to clinical diagnosis (1958).[6]

Our statistics, it is to be remembered, relate only to those epileptics who have been placed in special public and private institutions, and not to the number at large over the country. It is also to be noted that a

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[4] In classifying epileptics it is to be remembered that there are often difficulties in determining to what type or form particular cases belong, and that there may be differences in methods and procedures in different institutions. On classification of epileptics see *Archives of Neurology and Psychiatry*, lx, 1943, p. 107.

[5] The tables in this and succeeding chapters are, unless otherwise designated, based upon annual reports, "Patients in Mental Institutions" of the Federal Department of Health, Education, and Welfare, and prior publications of this nature, including special reports for certain years, as 1904, 1910, and 1923.

[6] In Appendix B are given more detailed figures for 1955 and 1951. In 1907 the cases assigned for epilepsy at Craig Colony (New York) were in percentages as follows: traumatic, 11.2; fright or shock, 9.5; indigestion, 7.2; dentition, 3.0; meningitis, 2.0; worries, 1.9; scarlet fever, 1.7; puberty, 1.4; overwork, 1.5; alcoholism, 1.5 (the remainder being miscellaneous or unknown, with heredity constituting a large part).

PER CENT DISTRIBUTION OF RESIDENTS AND FIRST ADMISSIONS
ACCORDING TO CLINICAL DIAGNOSIS

Clinical diagnoses	Public institutions		Private institutions
	Residents	First admissions	First admissions
Total	100.0	100.0	100.0
Symptomatic	39.1	50.3	63.4
Toxemic exogenous	1.3	0.4	—
Toxemic endogenous	2.6	2.3	5.6
Due to brain disease	30.1	47.4	40.8
Unknown	2.1	0.6	17.0
Idiopathic	38.6	32.8	26.8
Unclassified	22.3	16.5	10.7

considerable portion set down here is unclassified. Among residents the smaller part (a little over one-third) of epilepsy seems to be of the symptomatic type. Among first admissions one-half is of such type. Apart from this being possibly the better test, it may be that the symptomatic type is more amenable to treatment, wih larger proportions not remaining in the institution. With symptomatic cases among both residents and first admissions, much the larger part are due to definite brain disease. (As appears in a later table, among first admissions almost one-half of this is ascribed to ageneses, and not far from one-fifth each to meningo-encephalitic affections and one-eighth to traumatic, with silght amounts to cardiovascular.) Of the other two forms under the symptomatic type, toxemic exogenous and toxemic endogenous, there are only a few per cent. (Under the idiopathic type of epilepsy about one-sixth is chargeable to trouble with psychogenic factors.)

No great differences are to be found in what is set down here and what has been set down in previous reports. In earlier reports slight percentages have been listed under toxemic exogenous causes to poisoning; under endogenous, to renal disorders, pregnancy and puerperal disorders, endocrinopathic disorders, and metabolic disorders; and under causes due to brain disease, syphilitic and neoplastic disorders.

The proportions between the two sexes are on the whole but little different; we do not know if any significance may be attached here. How far the matter may be affected by the age at the occurrence of epilepsy we do not know, except that traumatic and neoplastic disorders are more likely to be of post-natal character.

With private institutions in some years the symptomatic type of epilepsy is in the ascendency, and in other years the idiopathic. In all years there is a high proportion for brain disease and in most years a high one for ageneses, sometimes well over one-half, under the symptomatic type.[7]

In the following table is given, according to the leading forms of clinical diagnoses, the percentage distribution of first admissions and of readmissions of epileptics to public institutions, together with the ratio per 100 of the one to the other (1941), and percentage distribution of admissions and readmissions (1942).

Readmissions follow much the same order as first admissions. They appear to be somewhat more likely with idiopathic epilepsy, particularly in the case of that with psychogenic factors. Appreciably larger proportions are found for readmissions with toxemic exogenous and possibly with toxemic endogenous cases. Very low is the ratio for readmissions with ageneses among definite brain diseases. Where readmissions are more likely for some forms of epilepsy, this means that persons suffering from it are less likely to have had permanent recovery, and are in need of renewed institutional treatment, or have proved themselves unable to adjust to the outside community. Females whose trouble is due to definite brain disease are especially likely to be returned, though this is not true with trouble of traumatic character. Very large is the proportion of females readmitted with psychogenic factors under idiopathic epilepsy. It is to be remembered that the statistics here refer to an earlier year, but they may still throw some light on the situation.

NOTE TO CHAPTER III.—On causes of epilepsy (including heredity), see S. J. Holmes, Trend of Race, 1921, p. xv; S. J. Holmes, Human Genetics and Its Social Import, 1936, p. 143; W. D. McKim, Heredity and Human Progress, 1900, p. 139; F. A. Bushee, Principles of Sociology, 1923, p. 349; S. S. Stevens, Handbook of Experimental Psychology, 1951, p. 1155; A. M. Winchester, Heredity and You Today, 1954, p. 288; J. Jackson, Inquiry into Nature and Causes of Epilepsy, 1812; D. F. Weeks, Inheritance of Epilepsy, 1912; E. A. Eastabrook, Jukes, 1915 (publications of Carnegie Institute, no. 24, p. 40); E. M. East, Heredity and Human Affairs, 1927, p. 101; A. Meyerson, Inheritance of Mental Illness, 1925, p. 57; J. Cooke, Heredity and . . . Causes of Epilepsy, 1823; E. C. Knapp, Heredity in Relation to Diseases of Nervous System, 1916; L. Hogben, Genetic Principles in Medicine and Social Science, 1931, p. 96; E. Baur, E. Fischer, and F. Lanz, Human Heredity, 1937, p.

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[7] The value of statistics relating to private institutions is somewhat reduced because of the smaller numbers involved, and with a considerable proportion not making reports, though in some there may be more precise classifications.

PER CENT DISTRIBUTION OF FIRST ADMISSIONS AND READMISSIONS
ACCORDING TO CLINICAL DIAGNOSES

	1941				1942	
	Per Cent Distribution					
Clinical diagnoses	All admissions	First admissions	Read-missions	Ratio of readmissions to all admissions	First admissions Total	Read-missions Total
Total	100.0	100.0	100.0	100.0	100.0	100.0
Symptomatic	32.9	33.9	33.5	11.2	23.9	20.3
Toxemic exogenous	1.2	1.0	2.6	—	0.6	1.0
Toxemic endogenous	3.4	3.2	5.2	16.9	3.3	2.3
Due to brain disease	23.4	23.8	20.6	9.9	18.9	16.7
Meningo-encephalitic	4.1	4.1	3.6	10.0	3.0	3.6
Traumatic	9.1	8.9	10.8	13.3	6.9	5.7
Ageneses	5.6	6.0	2.6	5.2	4.3	3.1
Other	3.0	3.2	1.5	5.3	2.2	2.1
Unknown	5.8	5.8	5.2	10.3	1.2	2.5
Idiopathic	53.7	52.8	60.8	12.8	48.4	72.9
With psychogenic factors	9.7	8.1	13.4	17.3	6.4	13.0
Other factors	45.0	44.7	47.4	11.9	42.0	59.9
Unclassified	13.4	15.3	5.7	5.1	17.7	6.8

44; M. F. Guyer, Being Well Born, 1929, p. 335; W. E. Castle, Genetics and Eugenics, 1930, p. 380.

R. R. Gates, Human Genetics, 1946, p. 1091; F. Osborn, Preface to Eugenics, 1951, p. 43; P. H. Hock and R. P. Knight, Psychological Aspects of Convulsive Disorders, 1947, p. 27; S. A. K. Strahan, Marriage and Disease, 1900, p. 139; F. J. Kallman, Heredity in Health and Mental Disorder, 1953, pp. 190, 202; J. R. Reynolds, System of Medicine, 1871, ii, p. 271; D. F. Weekes, Problem of Eugenics, i, 1912, p. 62; Nothangel's System of Medicine, 1918, xii, p. 313; R. H. Gault, Criminology, 1933, p. 289; A. Scheinfeld, Human Heredity Handbook, 1916, p. 137; B. H. Arnold, Heredity in Epilepsy (Handbook), 1954; E. C. Colin, Elements of Genetics, 1954, p. 370; B. Harvald, Heredity and Epilepsy, 1954; Causes of Epilepsy, Hysteria, and Fits, 1776; J. R. Green, Epilepsy Diagnosis, 1958; H. Geist, Etiology of Idiopathic Epilepsy, 1962; The New You and Heredity, 1960, p. 245.

Proceedings of American Psychological Association, 1947, pp. 58, 69; Proceedings of National Association for Study of Epilepsy and Care and Treatment of Epileptics, 1906, p. 146; 1911, p. 73; 1947, p. 56; Transactions of International Medical Congress, 1876; Proceedings of American Association for Study of Feeblemindedness, 1906, p. 46; Transactions of American Neurological Association, 1907, p. 92; Proceedings of American Philosophical Society, 1912, p. 178; Proceedings of International Eugenics Congress, 1912, i, p. 62 (Problem of Eugenics); 1921, ii, p. 368; Proceedings of Kansas Conference of Charities and Corrections, 1891, p. 1885; 1907, p. 88; Connecticut Conference of Charities and Corrections, 1910, p. 84; Transactions of Michigan Medical Society, 1895, p. 446; Bulletin of American Academy of Medicine, 1906, p. 603; Bulletin of Johns Hopkins Hospital, no. 105, 1959; Bulletin of Ohio Hospital, 1898, p. 66; New York State Board of Charities, Eugenics and Social Welfare Bulletin, no. 9, 1913; Bulletin of Massachusetts Committee on Mental Diseases, Jan., 1918; bulletins and reports of hospitals for epileptics in general; *Genetic Psychology Monographs*, xvi, no. 5, 1935; Bulletin of Eugenics Record Office, no. 4, 1911 (C. P. Davenport, study of inheritance); Institution Quarterly (Illinois), iv, 2, 1913; viii, 1, 1917. Houston Neurological Society, Diseases of Nervous System, 1961.

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Quarterly Journal of Medicine, xix, 1926, p. 299; *Journal of American Medical Association*, xxvi, 1896, p. 841; cxlvi, 1951, pp. 326, 529; clii, 1953, p. 1690; *ibid., Diseases of Child*, xcv, 1908, p. 75 (no. 1, part 2); *Archives of Neurology and Psychiatry*, vii, 1922, p. 721; ix, 1923, pp. 448, 554, 567, 689, 715; xix, 1928, p. 199; xxxi, 1934, p. 1161; xxviii, 1932, p. 1248; xxxv, 1935, p. 1165; xxxvi, 1936, p. 1045; xliv, 1940, p. 1155; lxv, 1951, p. 545; *New York Medical Journal*, xcvi, 1912, p. 270; civ, 1916, p. 529; *Journal of Nervous and Mental Diseases*, xvi, 1889, p. 757; xxxviii, 1911, p. 641; *Pediatrics*, i, 1948, p. 85.

American Journal of Insanity (Psychiatry), xii, 1858, p. 123; xv, 1859, p. 333;

xix, 1862, p. 198; xxiv, 1867, p. 187; xxv, 1868, p. 364 (Biennial Retrospect of Medicine and Surgery); xxix, 1873, pp. 341, 508; xxxvii, 1880, p. 177; xlix, 1902, p. 491; lx, 1903, p. 61; lxix, 1913, pp. 565, 603; lxxvii, 1922, p. 613; lxxxviii, 1923, p. 683; lxxix, 1933, p. 989; xcv, 1939, p. 1153; xcviii, 1942, p. 737; xcix, 1942, p. 174; ciii, 1947, pp. 417, 457; and *passim; Neurology,* iv, 1954, p. 99; v, 1955, p. 77; *Hygeia,* v, 1927, p. 307; vi, 1928, p. 288; ix, 1931, p. 904; *Epilepsia,* i, 1910, p. 365; ii, 1911, p. 343; v, 1914, p. 344; and *passim.*

Psychosomatic Medicine, vii, 1945, p. 100; *Eugenics Review,* xi, 1919, p. 70; xxxviii, 1946, p. 99; xlvii, 1955, p. 33; *Medical Clinics of North America,* xii, 1958, p. 345; xxxi, 1947, p. 1273; and *passim; Practitioner,* cxcii, 1964, p. 517; *Training School Bulletin,* xli, 1945, p. 129; *Illustrated World,* xxviii, 1918, p. 773; *Review of Reviews,* xlviii, 1913, p. 375; *Technical World,* xviii, 1913, p. 535; *Literary Digest,* xlvi, 1912, p. 728; *Journal of Heredity,* xxxvi, 1945, p. 233; *Boston Medical and Surgical Journal,* clxxiii, 1915, p. 469; clxxiv, p. 573; clxxv, 1916, p. 599; *Human Fertility,* x, 1945, p. 97; *Annals of Internal Medicine,* xviii, 1947, p. 145; *Brain,* ii, 1879, p. 491; *Journal of Pediatrics,* xliv, 1954, p. 591; li, 1957, p. 137; liii, 1958, p. 66; lvi, 1960, p. 347; *Saturday Evening Post,* June 17, 1948.

Chapter IV

POSSIBLE RECOVERY OR IMPROVEMENT OF EPILEPTICS—POSSIBLE REDUCTION OF EPILEPSY

A certain portion of those suffering from epilepsy may be relieved of seizures; a somewhat larger portion may have improvement in their condition; the remainder, an ever decreasing number, seem as yet to be beyond medical or surgical remedy. A portion of epilepsy is susceptible of help; a lesser portion is not—how much belongs to either category we do not now precisely know. In some cases seizures can be stopped, in some controlled, in some more or less modified. The matter has been one baffling to medical science over the years—though it has engaged some of the highest of medical study and skill and devotion. At one time or another hopes were held out as to the curability of much of epilepsy, especially when those with it were placed in institutions for treatment. In the initial report of the Ohio institution (1893), the first in America designed for epileptics, it was stated that "in many cases now considered hopeless perfect cure may be effected." With time, statements on the subject have been more guarded and conservative. Patent medicines have been turned to in abundant measures—some expensive, some dangerous. Without medical authorization use has also been made of diverse nostrums and artifices.

Instead of the term "recover" from the affection known as epilepsy a more suitable expression is regarded as the reduction or elimination of seizures.

As we have seen in a previous chapter, few disorders among men have been so little known or understood despite continued and persistent study. Epilepsy by its nature is not to be treated as an ordinary disease. Involved are the chemical make-up and metabolism of brain cells, with complications in nervous and other disorders. It is to be treated only by processes peculiar to itself. In dealing with it there has been resort by medical men to certain drugs, after the middle of the nineteenth century, especially in the past bromides. In recent years, or after the earlier years of the twentieth century, there have been notable developments with particular drugs (often known as anti-convulsants), which have been proving increasingly effective, and to a considerable extent of remedial character—if not by way of cure, at least by way of control of seizures. There is now much hope and expectation here.[1] In some instances, especially of traumatic nature or tuberous growth, surgical operations may be of help.

There has been no little gain in the invention of instruments for the detection and measurement of brain waves, which may throw light on therapeutic possibilities, one known as electro-encephalograph ("EEG"). Mechanical devices may also be of aid in the study of the brain in general and of nervous troubles. There may thus be increasing knowledge of the subject, with possibly increasing benefits.

There is no doubt that good can be accomplished in a general way in the early diagnosis of cases, and with as early treatment as possible. There may be considerable gain from proper diet, rest and recreation, these being in general of normal character. Freedom from worry or excitement can be of great aid. Possible emotional upsets are to be avoided. There should be maximum participation in community activities where one lives. There should be moderation in habits of living, with a reasonable amount of sleep, with a wholesome, well-balanced diet, and general normal activities. As we have observed, usual forms of recreation and outdoor sports should be engaged in, with caution. Instruction in proper living in such condition is always requisite. One should be told of his situation plainly and sympathetically.

Surroundings and environmental influences should be such as to be of benefit and not of harm. Employment where possible may have very desirable results. Local or traveling clinics for examination of cases and for some measure of treatment are always in order and are to be strongly encouraged. Often there may be much gain when cases are taken in time, particularly in arresting progress of the trouble or in keeping it from getting worse.[2] There should be nothing to precipitate.

More and more it is being urged that epilepsy be regarded as a public health problem. To be treated as such workshops for instruction in dealing with cases are of quite practical value. A wide program of educating the public, including moving pictures and television, is directly called for. City and county health authorities should maintain clinics to deal with the matter. Unfortunately, facilities, especially clinics for proper treatment of the epileptic, are within reach only of the smaller part of the population of the country, possibly hardly one-fifth. There are an insufficient number of medical specialists, particularly neurologists, to meet the need for the country as a whole, the lack being most in evidence outside the larger cities.[3] Only about one-fourth of the medical schools of the country are regarded as having full neurological training facilities. It is good to know that an increasing number of training centers are serving as clinics. (There is said to be only one neurologist to every 50,000 of general population in the United States.) It is believed that the larger number of cases can be treated in greater or less measure by family physicians when such physicians have had proper neurological training. In all training for physicians and public health nurses there should be due stress on neurological problems. Only the smaller portion of medical schools are now so equipped. Unfortunately, also, in some instances where medical attention is available, there is reluctance or unwillingness to seek it on the part of those suffering, possibly to some extent out of a sense of shame or a like feeling. It is to be remembered that the less serious cases or those in less need of institutional treatment are for the most part left in their own communities. Sometimes there is a relapse with those who do not keep up treatment prescribed for them. Hardly over one-fourth of persons with epilepsy are regarded as under proper medical control. But it is good to know that with public health nurses there is increasing concern with this class. Services for crippled children may often be available for epileptics. The National Institute of Health is encouraging the establishment of research centers and clinics. The Children's Bureau is likewise concerned.

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[1] Certain of these tridione drugs are phenobarbital, dilatin, mesantoin, paradione, tridione. There are a number of others. Some have after effects, though rarely serious. They are in general non-habit forming. On drugs see *Journal of Medical Associations*, clvi, 1954, p. 21. At some centers drugs may be obtained free.

[2] On automobile driving, see chapter on Legislation.

With respect to the bearings of heredity upon the situation, not a great deal need be said, beyond what has previously been brought out on the subject.

In connection with the matter of the prevention of epilepsy, mention could once have been made of the matter of institutionalization—epileptics having been in numbers placed in institutions where the opportunities for marriage were much lessened. Institutions have played a large part in our treatment of epileptics. This part is now becoming a definitely decreasing one. Mention is also to be made of the matter of sterilization —it having reference to the possibility of the prevention in persons suffering with it, or potential bearers of the disorder. In the laws of some of the states, applying more fully to mentally defective and mentally ill persons, epileptics are included, though with operations much less frequent than with the other two classes, and usually when the person concerned also belongs to one of these classes.[4] As a general thing sterilization, at least in its application on any wide scale, is in less favor than in some former years. It may possibly be applied to certain selected mental cases of really hereditary character, but at best only a limited number; the problem as a whole would remain largely unaffected. The conviction is now general that sterilization should not be given to persons epileptic only. It is to be remembered also that epileptics have distinct rights as citizens of which they are not to be deprived without satisfactory reasons. Finally, it is believed that we know too little of the operations of heredity in a matter like epilepsy; and any steps in this direction with them are in any event to be taken with extreme care.

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[3] Veterans with disability of an epileptic nature resulting from war service are entitled to due hospitalization.

There has also been objection with some to marriages of epileptics in general. In certain of the states there are restrictions upon the marriages of epileptics, though not as extensive as those relating to the mentally ill or mentally defective. There is increasing opposition to such laws as exist with efforts for their repeal. It has been believed that they are largely uncalled for and are not fair to epileptics in general.

Various estimates have been made as to the proportion of epileptic cases that can be helped or relieved by treatment. At one time it was said that 3 or 5 or even 10 per cent are curable; that one-third or one-half or two-thirds may be improved or helped; that one-fourth may be considerably benefited. In optimistic views it has been said that in one-half of the cases seizures could be controlled or eliminated, and in one-fourth or one-third in addition reduced in frequency or severity; that three-fourths of epileptics could be made to live normal lives. It is claimed that only one-fifth need be really disability cases. Something like one-tenth are believed to be in need of permanent institutional care at present.[5]

Let us now see what has been revealed in a study of discharges from institutions, as given in reports by the Federal Government ("Patients in Mental Institutions," etc.). Though not for late years, there is no reason to think that they are not of some value today. According to these reports one is "recovered" if he has regained practically the same mental status as was had previously to the onset of the illness. By "improved" is meant "substantially any degree of mental gain short of recovery." "Unimproved" involves no mental gain. It is to be remembered that "discharge" affects only the smaller percentage of the entire institution population. It is also to be understood that there will be different estimates on the subject in different institutions. But all told, our statistics should throw considerable light on the extent to which epileptics have been thought to have recovered or to have been improved. Sometimes it may be hard to tell if recovery has been permanent; possibly there may have been too little of follow-up work.

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[4] See chapters on Legal Treatment of Epileptic. See J. H. Landmann, Human Sterilization, 1922, p. 35. On marriage of epileptics, see *New York State Journal of Medicine*, x, 1910, p. 428; *Illinois Medical Journal*, xxii, 1912, p. 305.

[5] See Proceedings of National Association for Study of Epilepsy, 1908, p. 10. See also present writings on subject.

Of those epileptics who have never been in institutions, and generally the less serious cases, the proportions for recovery and for improvement should be materially greater than the proportions for those who have been in institutions.

In the following table is given the percentage distribution of discharges of epileptics from public institutions according to whether they were recovered, had improved, or had not improved, for the years 1922, 1926-1955 (there were no figures for later years).

It appears here that usually for the years concerned not over 2 or 3 per cent, sometimes less, never as much as 6 per cent, of epileptics who are discharged from their institutions are reported as recovered. From two-fifths to three-fifths are reported as improved. Over the years no distinct trends are to be observed, though in the later years there seems to be a slight increase of those reported as recovered as well as for those reported as improved. Increases today are to be expected with the increasing efficacy of the drugs being used in the treatment of epilepsy.

In the table on page 34 is given the percentage distribution of discharges of epileptics from public institutions by condition at time of discharge, according to clinical diagnosis (1955). In later years no such figures are afforded.

Here as between symptomatic and idiopathic epilepsy it appears that the former is of slightly greater extent in the way of betterment (or in the reduction or elimination of seizures, as it may be better expressed). In past years there have been variations between the two types, one now in the ascendancy and now the other. In the several forms

PER CENT DISTRIBUTION OF EPILEPTICS ACCORDING TO PERSONAL IMPROVEMENT

Condition at discharge	1955	1954	1953	1952	1951	1950	1949	1948	1947	1946
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Recovered	3.8	5.3	3.4	2.8	2.3	2.3	1.9	2.8	1.6	2.6
Improved	58.5	59.0	63.8	60.6	50.8	51.4	41.7	34.3	52.2	50.5
Unimproved	36.6	32.8	30.6	24.7	36.6	39.7	35.6	39.9	32.7	35.9
Unknown	1.3	2.8	2.2	11.7	7.3	6.6	20.8	23.0	13.5	10.8

PER CENT DISTRIBUTION OF EPILEPTICS ACCORDING TO PERSONAL IMPROVEMENT (*Continued*)

Condition at discharge	1945	1944	1943	1942	1941	1940	1939	1938	1937	1936
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Recovered	2.0	3.2	2.3	3.6	3.8	4.4	3.7	2.1	1.7	1.5
Improved	51.9	54.4	55.7	48.3	51.3	43.0	39.1	46.6	44.1	37.3
Unimproved	38.1	35.2	37.4	40.3	42.7	51.7	55.0	48.4	51.0	50.1
Unknown	8.0	7.2	4.6	6.9	2.2	0.9	2.2	2.9	3.7	11.1

Per Cent Distribution of Epileptics According to Personal Improvement (*Continued*)

Condition at discharge	1935	1934	1933	1932	1931	1930	1929	1928	1927	1926	1922
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Recovered	1.7	1.4	1.5	1.6	1.6	0.6	1.7	1.3	2.3	3.7	2.7
Improved	31.3	39.2	42.6	40.8	44.4	51.3	49.4	49.8	45.8	32.3	45.1
Unimproved	60.8	50.5	47.8	55.3	53.4	48.1	48.9	48.9	51.9	64.0	47.1
Unknown	6.2	8.9	8.1	2.3	0.6	—	—	—	—	—	4.3

PER CENT DISTRIBUTION OF DISCHARGES
ACCORDING TO CLINICAL DIAGNOSIS

Condition at discharge	Total	Symptomatic					Idiopathic	Unknown
		Total	Toxemic exogenous	Toxemic endogenous	Due to brain disease	Unknown		
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Recovered	3.8	5.6	—	4.9	5.5	7.0	3.9	—
Improved	58.5	52.0	77.0	72.2	33.7	58.4	59.3	65.6
Unimproved	36.5	40.6	23.0	18.9	57.8	34.6	36.4	31.7
Unknown	1.2	1.8	—	4.5	3.0	—	0.4	2.7

under the symptomatic type there seem to be greater chances of recovery with the form known as due to brain disease, with the exogenous form having none—though the figures here are too small to possess any great significance, in some years the situation being different. In the matter of improvement at discharge there appears a slightly higher proportion for the idiopathic type than for the symptomatic, though this has not always been the case in former years. There are relatively high proportions for the two toxemic forms, they evidently being more amenable to treatment for the betterment of their condition, though usually not sufficient for complete recovery. There have been variations for earlier years. There are no figures for private institutions.

In the following table is given the ratio of discharges from public institutions per 100 first admissions, according to condition at discharge (1951).

RATIO OF DISCHARGE TO FIRST ADMISSIONS

Condition at discharge	Total	Symptomatic	Idiopathic	Unclassified
Total	56.3	40.8	40.5	46.6
Recovered	3.2	2.1	4.3	7.7
Improved	32.8	26.6	40.5	22.7
Unimproved	18.4	11.7	28.5	17.3
Unknown	1.6	0.4	2.8	0.4

Here, and in statistics for other years, idiopathic epilepsy seems on the whole to show somewhat higher ratios for both recovery and improvement with those leaving institutions. This result as between the two types of epilepsy may be due to greater amenability to treatment at the institutions or to a more beneficial sojourn in general while there, for one type as contrasted with the other.

As found in previous reports, of those discharged from institutions as improved, most have been there but a short time—probably the less serious cases which have required relatively little treatment. Over two-thirds have remained one year or less, and one-third six months or less.[6]

In the following table are given like figures with respect to discharges of epileptics ("convulsives") from hospitals for mental illness—state, county, and psychopathic (1953).

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[6] In Appendix C is given the percentage distribution of improved discharges according to length of time spent in institutions (1923).

Per Cent Distribution of Discharges from Mental Hospitals

Condition at discharge	State hospitals	County hospitals	Psychopathic hospitals
Total	100.0	100.0	100.0
Recovered	14.8	18.9	3.3
Improved	64.7	46.9	72.3
Unimproved	10.8	12.6	14.4
Unknown	10.3	21.6	10.0

Here there is to be seen a considerably larger proportion of discharges reported as recovered in state and county hospitals than is the case with the special institutions, and higher proportions for those reported as improved in all three classes of mental hospitals, particularly so in the case of psychopathic hospitals (in general for more temporary cases). How far the matter is affected by different types of cases involved in institutions and in the several classes of hospitals, or how far different methods of treatment are followed in them, is not in evidence. Possibly the mental hospitals have on the whole less serious cases to deal with, or they are more amenable to treatment. The fact that epileptics have been placed less and less in institutions is decided evidence of the progress being made in dealing with their trouble.

The decreasing prevalence among us of such affections as tuberculosis, pneumonia, and influenza, and with greater or less disappearance of such diseases as scarlet fever, diphtheria, whooping cough, measles, and other such diseases, the effects upon epilepsy cannot be disregarded.

On the whole, with the increasing attention to epilepsy on the part of medical men, and on the part of society as well, and with the increasing efficacy of drugs brought into use, there seems every reason to believe that with the years the number of epileptics in our population will steadily grow less, or at least with those who are subject to seizures. At the same time it is to be remembered that through medical skill and with better living conditions in general, more and more people are being kept alive, something to apply no less to the survival of epileptics who are part of the population.

Chapter V

NUMBER OF EPILEPTICS IN UNITED STATES

We have no statistics to enable us to know, even approximately, the number of epileptics to be found in the United States. For the most part the only statistics we have here have related to the number in special institutions—both special institutions for epileptics, institutions for epileptics and mental defectives together or institutions for the mentally ill. There have been a few local investigations, but little to indicate conditions for the country as a whole.

There have been various estimates as to the number of epileptics in the country. A frequent estimate is that from 0.4 to 1.0 per cent of the total population is at least subject at times to convulsive movements, in some cases of mild character, but such as to be generally recognizable. Among men called to military service of recent years something like 0.3 or 0.8 per cent have been held to have had a history of seizures. The age constitution here is not regarded as representative of the country at large, and this percentage is not thought to be sufficiently large.[1] Because of concealment in a greater or less number of cases, it is all the more difficult to make a full determination.

If 0.5 per cent of the population is to be regarded as definitely epileptic, then we have a figure not far from a million in the United States; if 1.0 per cent, then something not far from two million. We may assume that there are well over a million persons in the United States distinctly epileptic, possibly approaching two million.[2]

On the books of public institutions for epileptics (including institutions for mental defectives as well), there were in 1959, the last year that epileptics were included, recorded, 14,211 epileptic persons.[3] The number is much less today. In private institutions there were 457 recorded. But as only two-thirds of the known private institutions made reports, we may consider that there may be something like 600 epileptics in all in private institutions. There would thus be around 20,000 epileptics in all in institutions in the last year recorded—in fact because of the declining use of institutions for this class a very considerably smaller number today. Of those in public institutions 91.9 per cent were directly in the institutions, 0.3 per cent in family care outside, and 7.8 per cent in other extra-mural care, some on parole or after-care (described later), or otherwise on leave at home or in employment. In private institutions all were in institutions proper. To public institutions there were recorded at the time 846 first admissions, and to private 78—or 924 (probably about 1000 in all).

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[1] See U.S. Selective Service Medical Statistics, Samplings, World War I and II, 1941-1942. Of epileptics in Michigan in 1934 there were 9.9 per cent reported in the state colony.

[2] There have been said to be 7 per cent of the general population with convulsive episodes at some time in life.

[3] The figures given here and subsequently are, unless otherwise indicated, from Federal reports on "Patients in Mental Institutions" and similar reports.

In the public institutions in 1959 there was a total population of 177,833—there being 163,192 mental defectives and 670 others, besides the epileptics. In combined institutions in general mental defectives constitute some nine-tenths, formerly over five-sixths, of the total number. "Others" account for 1 or 2 per cent.[4] The smaller number of institutions now receive both mental defectives and epileptics. In the private institutions recorded there was a total population of 8,154, there being 458 epileptics, 7,402 mental defectives, and 316 others. Here epileptics constitute only about 6 per cent of the total number. Only the smaller number of such institutions today accept epileptics, with their number also decreasing.

In addition, there were in 1961 in state and county (formerly known as public) mental hospitals (for prolonged care) 14,803 persons with "convulsive disorders," 841 with acute brain syndromes and 13,962 with chronic brain syndromes—or 2.8 per cent of their entire population. There were 1,903 first admissions (136 and 1,867, respectively), or 1.5 per cent of all first admissions here. In 1959 in psychopathic hospitals (not included in the preceding) there were 20 in residence (all chronic), or 1.9 per cent of the total here, and 40 first admissions (1 and 39, respectively), or 1.5 per cent. In private mental hospitals there were 192 first admissions (57 of the former type and 135 of the latter), or 0.5 of all first admissions here. In general hospitals with psychiatric facilities (with 70 per cent reporting) there were 2,119 discharges (759 acute and 1,360 chronic), or 0.9 per cent. During the period from 1952 to 1959 of all persons "with convulsive disorders" who were admitted to institutions of any kind, both special institutions and mental hospitals, the proportion for the latter was close to two-thirds. If there is inclusion of discharges from general hospitals with psychiatric facilities, the proportion is close to four-fifths.[5]

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[4] The "others" are largely children retained in institutions for administration or therapeutic purposes, as children born to parents there. Also are some who are rather behavior problems or persons of neurological or psychopathic character or emotionally disturbed.

With the inclusion of those in mental hospitals and of those in private institutions (and with a certain number in penal and correctional institutions and in "homes" of some kind), there were probably at last accounts somewhat under 30,000 epileptic persons under institutional care in the United States. If 0.5 per cent of the total population is epileptic, we find that hardly 4 per cent were so placed. The proportion steadily decreases.[6]

On the average within recent years, of first admissions to public mental hospitals 1.8 per cent have been "with convulsive disorder," to psychopathic hospitals 1.5 per cent, and to private hospitals 0.7 per cent (formerly to county 1.2 per cent). Of discharge from general hospitals with psychiatric facilities about 0.7 per cent have been of this character. Those who have been admitted to both psychopathic and psychiatric hospitals and to general hospitals with psychiatric facilities have probably been for the most part less serious cases.[7]

When we examine the ratios of inmates of institutions to the population of the several states, there is afforded a partial picture of the extent to which epileptics have been provided for in institutions in the different states of the Union; there is little clue to the extent to which in general they are found in these states or over the country. Wide variations appear from this examination. Ratios of epileptics resident in institutions to the general population of the different states have ranged from zero to over a score and a half—the ratio for the entire country being 4.1. With zero there are meant no epileptics in institutions. (The ratio in first admissions has ranged from 1 or 2 to 10 or more, that ratio for the whole country being 7.5.) For a few states there are no available figures. It is again to be remembered that the number of epileptics in institutions is constantly being reduced.

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[5] County (and city) mental hospitals making reports have been in California, Maryland, New Jersey, Tennessee and Wisconsin. Psychopathic hospitals have been in California, Colorado, Delaware, Indiana, Iowa, Kansas, Massachusetts, Michigan, Nebraska, New York, Pennsylvania, Tennessee and Wisconsin. General hospitals with psychiatric facilities are found in practically all states. Such is also the case with private hospitals, state and country (and city) hospitals are now considered together as public.

[6] In Appendix D is given for the different states the ratio (per 100,000 of general population) in public institutions (obtained by subtracting the ratio for mental defectives from the ratio for both classes) in 1957, the last recorded year.

[7] In 1951 of mental patients in veterans administration hospitals, 7.2 per cent were epileptic (1.5 per cent without psychosis). In 1937 the percentage for convulsive disorders in state hospitals was 2.7, in county and city 0.9, in veterans 1.8, and in private 1.1. In 1923 the percentage for state hospitals was 1.7 (with psychosis).

The proportion of the total institution population, including both epileptics and mental defectives which is epileptic, has ranged from zero to a little over one-fifth—with a proportion for the country as a whole of about one-eighth. Again zero has meant the absence of epileptics from an institution. The proportion of the institution population which has been in private hands in the relatively few states reported with such institutions has ranged from 1 per cent to nearly three-fourths. (The ratio here for a given state is not always a true one, as some are from outside.) The proportion for the country as a whole is 2.5 per cent. The proportion of epileptics to be found in hospitals for the mentally ill, so far as is indicated in first admissions, and not in institutions of their own or with mental defectives, ranges from zero to 100 per cent, that is, from none to all. In the latter case there is no other provision for them, the mental hospital being their only resort. In some states there are no epileptics in institutions for mental defectives. In certain states a larger number of epileptics are sent to hospitals than to institutions. Of first admissions to mental hospitals some two-thirds or three-fourths have been to state hospitals, with about one-sixth or one-fifth to private hospitals, and with smaller proportions to veterans and county and city hospitals. All told, a little under one-third of epileptics in institutions have been in mental hospitals.[8]

Of epileptic residents in public institutions (1959) 39.4 per cent were of the symptomatic type and 38.3 of the idiopathic type (with 22.3 per cent unclassified).

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[8] On the possible number of epileptics in the country, see Publications of Association for Research in Nervous and Mental Diseases, 1931, p. 1021; Proceedings of National Conference of Charities and Correction, 1902, p. 271; 1907, p. 607; California Conference of Charities and Correction, 1898, p. 66; Proceedings of National Association for Study of Epilepsy, 1907, p. 191; Statistical Manual for Use of Institutions for Epileptics, 1934; Report of New York State Board of Charities, 1907, p. 36; *Popular Science Monthly*, xlviii, 1896, p. 719; *Welfare Magazine*, xviii, 1927, p. 1658; *Mental Hygiene*, xi, 1917, p. 507; xi, 1927, p. 369; xx, 1936, p. 446; *Psychiatric Quarterly*, vi, 1932, p. 91; *Journal of American Medical Association*, clii, 1953, p. 1690; *Scientific Monthly*, x, 1920, p. 131; *American Health*, Sept. 19, 1954; *Epilepsia*, i, 1959, p. 143.

Of first admissions to public institutions 55.3 per cent were of the symptomatic type and 21.5 per cent of the idiopathic (with 23.3 per cent unclassified). In private institutions 71.4 per cent were of the symptomatic type and 20.0 per cent of the idiopathic (with 8.6 per cent unclassified). The proportions have varied somewhat from year to year, particularly in private institutions.

Chapter VI

MOVEMENT—INCREASE OR DECREASE—OF EPILEPSY

If the actual number of epileptics in the United States at present cannot be known, the numbers in past years are even more beyond our knowledge. There has never been a national census of epileptics attempted; while any local investigations have been few and incomplete. We have no means of determining the number of epileptics who are or have been with us. It is ever to be kept in mind that the number of epileptics entering institutions is becoming very slight unless there is some other affection involved.

For the years 1880, 1890, 1904, 1910, and 1928 there was an enumeration of the epileptics to be found in special institutions for them or in institutions for the feebleminded (mental defectives), in institutions for the insane, and in almshouses. The numbers found here are given in the following table:

Number of Epileptics in Different Years

Year	Special institutions	Institutions for feebleminded	Institutions for insane	Almshouses
1923	8777	4159	10,016	1066
1910	—	2444	—	—
1904	—	3015	11,652	—
1890	—	3165	4,440	992
1880	—	6842	12,316	2600

In 1926 was begun an annual enumeration of epileptics, along with feeble-minded (the term then in use over the country), which continued till 1932. In 1933 the title became "Mental Defectives and Epileptics in Institutions". In 1938 the name was changed to "Patients in Mental Institutions", a portion of the reports being given to the mentally ill. In the later groupings statistics were included to some extent for epileptics in mental hospitals as well as in institutions. In 1947 the matter was transferred from the Census Bureau to the United States Public Health Service, now in the National Institute of Mental Health in the Department of Health, Education, and Welfare (under the Mental Health Act). In 1959 inclusion of statistics regarding epileptics with those regarding mental defectives was discontinued. What proportion the epileptics in institutions have constituted of the total number in the country we have no means of knowing.

In the following table are given for the years from 1938 to 1959 the ratios (per 100,000 of general population) of epileptic residents in and first admissions to public institutions, the percentage of epileptics in public and in private institutions for the total institution population (both epileptics and mental defectives), and the percentage of the total epileptic population in institutions which are private ones, both as to residents and as to first admissions.

EPILEPTICS IN INSTITUTIONS AT DIFFERENT YEARS

	Ratio in public institutions		Per cent in institutions		Per cent in private institutions	
Year	Residents	First admissions	Public	Private	Residents	First admissions
1959	7.8	0.4	8.0	6.2	3.1	7.2
1958	8.2	0.7	8.2	5.6	3.2	6.1
1957	8.6	0.7	10.3	7.7	2.3	3.8
1956	9.8	0.8	9.9	7.7	2.7	4.4
1955	10.0	0.8	10.8	7.7	2.8	7.2
1954	10.4	0.6	10.7	7.8	3.3	6.6
1953	10.2	0.7	15.5	7.7	2.6	6.6
1952	12.7	0.7	15.3	8.5	2.5	5.9
1951	13.3	0.9	15.6	9.0	2.7	6.9
1950	13.5	1.0	15.8	9.7	2.9	5.9
1949	13.7	1.1	15.2	9.9	3.2	4.9
1948	13.6	1.2	15.3	10.9	3.3	5.2
1947	13.5	1.2	15.3	19.8	3.5	4.9
1946	12.8	1.1	15.8	11.7	—	—
1945	14.0	1.1	15.2	11.1	3.5	5.2
1944	14.0	1.2	15.4	11.9	3.2	4.9
1943	13.8	1.3	16.2	12.0	3.9	4.8
1942	13.1	1.2	16.7	12.3	3.5	3.6
1941	12.0	1.2	16.6	12.4	3.1	6.3
1940	—	1.3	17.2	13.8	2.4	4.9
1939	—	1.3	16.9	13.8	3.4	5.4
1938	—	—	—	—	3.1	4.6

The ratio for both inmates of and first admissions to public institutions is seen to have remained fairly constant over the years till fairly recent days, when there is discerned a decided drop—something to be expected with the present beneficial use of particular drugs in the treatment of epilepsy outside of institutions. The ratio for private institutions shows corresponding tendencies. The early 1950's seem to represent the high tide in the institution population. This is apparent when we see that the number which had been steadily advancing till it reached something over 20,000 in public institutions, fell to something under 14,000 after that time—in 1960, as we have observed, there being no figures given. The decline in private institutions begins with 1954, with well over 500 in that year, and well below it afterward. In such institutions a decrease is to be noted with both residents and first admissions. It is also to be noted, as previously brought out, that the number of joint institutions for mental defectives and epileptics is becoming decidedly less. From what is to be found in later chapters the proportion of discharges from institutions now exceeds the proportion of new admissions thereto. In some states there have been no new admissions recorded for some years.

Of the total population in public institutions for mental defectives and epileptics about one-sixth, as we have seen, has been epileptic, with a decrease manifest in later years, evidence anew of the lessened use of institutions for this class. In private institutions the proportion has been appreciably less than in public, ranging from one-eighth to one-tenth. In the private institutions there has been a notable decrease with the years, indicating that they are receiving fewer epileptics, and are being given over more and more to the reception of mental defectives alone.

The proportion of the entire institutional population in private institutions has shown little change in the period in question; it has been seldom over 3 per cent, and with first admissions generally around 5 or 6 per cent. (As certain private institutions failed to make report, the figures here are possibly to be slightly increased.) The larger proportion in the latter case probably is an indication of the relatively high turnover in private institutions, with a briefer stay in general. It is to be remembered that some private institutions receive both mental defectives and epileptics, some only mental defectives, and a few only epileptics. At times there have been a considerable number of persons in private institutions who were neither mentally defective nor epileptic.[1]

In the following table is given the percentage distribution of first admissions of epileptics to public institutions according to type of epilepsy (1922, 1926-1959).

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[1] In city institutions from 1933 to 1942 there were reported each year 1 or 2 per cent of the mentally defective and epileptic population, with hardly over one-seventh epileptic.

Per Cent Distribution of Epileptics by Type at Different Years

Type	1959	1958	1957	1956	1955	1954	1953	1952	1951
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Symptomatic	55.2	52.5	52.0	57.7	40.0	54.2	45.0	40.7	47.5
Idiopathic	26.4	32.5	38.1	30.8	34.7	37.2	31.1	46.7	46.0
Unclassified	18.4	15.0	29.9	11.5	25.3	8.6	23.9	12.6	6.5

Type	1950	1949	1948	1947	1946	1945	1944	1943	1942
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Symptomatic	36.3	34.5	33.8	35.6	31.2	30.7	33.3	32.7	23.8
Idiopathic	51.5	46.8	51.4	50.0	54.2	59.2	52.1	56.0	48.4
Unclassified	12.2	18.7	14.8	14.4	10.6	10.1	14.6	11.3	27.8

Type	1941	1940	1939	1938	1937	1936	1935	1934	1933
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Symptomatic	25.0	31.4	32.7	23.8	24.2	27.8	27.3	25.9	24.6
Idiopathic	59.7	61.6	59.9	62.9	56.9	61.5	61.7	67.0	54.4
Unclassified	15.3	7.0	7.4	13.3	18.9	10.7	11.0	7.1	21.0

Type	1932	1931	1930	1929	1928	1927	1926	1922
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Symptomatic	21.5	20.1	18.3	5.9	7.3	14.4	18.1	13.0
Idiopathic	66.7	67.4	51.5	15.8	17.8	48.2	46.1	59.3
Unclassified	11.8	12.7	30.2	78.3	74.9	37.4	35.8	27.7

The several proportions here are so varying that it is difficult to determine what trends may have taken place over the years. Possibly there has been some increase, especially of later years, for symptomatic epilepsy, and a decrease for idiopathic. This may mean more thorough or more scientific diagnosis of cases.[2]

It is to be borne in mind that the foregoing figures relate only to institutions; they do not give complete figures for the country. They may serve to show at least trends with respect to the more serious cases.

As we have seen, the heavy inroads being made upon convulsive disorders through the use of certain drugs, together with the reduction of certain diseases that have a bearing on epilepsy, are bound to make smaller the number of epileptics with us, though this consideration is somewhat offset by the ever enlarging population and with the greater number of persons kept alive, upon whom epilepsy may fall. On the whole it would seem that we may expect epilepsy to be of constantly lessening extent with the passing of the years, though it may be in our society for years in the future.

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[2] In private institutions the respective percentages for 1957 were 42.6, 51.8, and 6.8.

Chapter VII

EPILEPTICS BY SEX

In the following table is given for epileptics in institutions, both public and private, the percentage male and female among residents and among first admissions (1942-1959).

PER CENT OF EACH SEX OF EPILEPTICS IN INSTITUTIONS

	Residents				First Admissions			
	Public institutions		Private institutions		Public institutions		Private institutions	
Year	Male	Female	Male	Female	Male	Female	Male	Female
1959	52.1	47.9	44.7	55.3	60.0	40.0	62.4	37.6
1958	51.8	48.2	44.3	55.7	60.1	39.9	50.0	50.0
1957	51.5	48.5	42.1	57.9	59.7	40.3	40.3	59.7
1956	57.6	48.4	38.3	61.7	56.8	43.2	45.0	55.0
1955	51.7	48.3	34.7	65.3	56.2	43.8	49.0	51.0
1954	51.6	48.4	38.8	61.2	59.7	40.3	38.3	61.7
1953	51.4	48.6	40.0	60.0	57.1	48.9	47.8	52.2
1952	50.6	49.4	39.8	60.2	62.4	37.6	42.4	57.6
1951	50.6	49.4	39.7	60.3	58.2	41.8	49.5	50.5
1950	50.9	49.1	39.3	60.7	59.0	41.0	54.3	45.7
1949	56.2	43.8	39.0	61.0	57.9	42.1	49.7	50.3
1948	50.9	49.1	37.2	62.8	54.9	45.1	54.1	45.9
1947	51.2	48.8	34.5	65.5	56.0	46.0	45.3	54.7
1946	51.1	48.9	38.9	61.1	58.1	41.9	52.0	48.0
1945	51.6	48.4	38.0	62.0	56.8	43.2	45.6	54.4
1944	51.7	48.3	39.8	60.2	55.6	44.4	53.9	46.1
1943	52.2	47.8	40.1	59.9	55.2	44.8	56.2	43.8
1942	54.7	45.3	40.5	59.5	62.7	37.3	48.3	51.7

There seems to have been a somewhat larger proportion of males than females in public institutions among both inmates and first admissions, varying from a trifle over one-half to almost three-fifths at different years. The difference is greater than is the case in the general population, where the proportion for males is about 51 per cent—though we have no great reason to think that epilepsy prevails more extensively with one sex than with the other. Possibly females are less likely to be sent to institutions, having better care in their own homes. The proportion of males among first admissions is larger than among inmates, probably an indication that females who have once entered an institution are less likely to be discharged and more likely to remain there longer, in part for their protection. This applies all the more to private institutions, where male inmates are in a distinct minority, usually with only about two-fifths of the total number. The proportions for the two sexes in institutions on the whole remain fairly constant over the years.[1] We do not know what differences there may be among those outside of institutions.

In the following table is given the percentage for either sex in the institutions with respect to resident population and the several forms of admission and of separation (1958).

PER CENT OF EACH SEX IN INSTITUTION POPULATION

Movement of population	Public institutions		Private institutions	
	Male	Female	Male	Female
On books at beginning of year	51.8	48.2	44.3	55.7
Institutions	50.8	49.2	44.3	55.7
Family care	14.3	85.7	—	—
Other extra-mural care	52.0	48.0	50.6	49.4
Admissions	60.1	39.9	50.6	49.4
First admissions	60.5	39.5	50.0	50.0
Re-admissions	44.7	55.3	46.1	53.9
Transfers	62.0	38.0	—	—
Separations	51.6	48.4	53.5	46.5
Discharges	54.3	45.7	57.8	42.2
Institution	52.8	47.2	58.0	42.0
Other extra-mural care	49.5	50.5	66.7	33.3
Transfers	54.0	46.0	—	—
Deaths	58.8	41.2	37.5	62.5
Institutions	59.8	40.2	37.5	62.5
Extra-mural	47.3	52.7	—	—
On books at end of year	51.8	48.2	44.1	55.9
Institutions	51.8	48.2	44.1	55.9
Family care	14.7	85.3	—	—
Other extra-mural care	53.2	46.8	—	—

With public institutions males have been slightly in excess over females in all particulars except as to family care. Females are afforded family care to a greater extent as in this way they are provided with a sheltered life, and one in which they can engage in certain work as house and needle work in the home. Males have the greatest excess in respect to transfers, females being the more likely to remain in the institution when they once have entered.

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[1] On the respective percentages for males and females, see also chapters on Age, Race and Nativity, Marital Condition, Death Rates.

With private institutions females have been in excess in all particulars except as to extra-mural care (where the numbers involved are too small to have any real significance) and as to readmissions and transfers, doubtless, as in the previous case, because when females are placed in an institution their stay is more likely to become a permanent one. With private institutions no family care is listed for either sex, such institutions being little concerned with this form of treatment of their inmates. The several proportions change somewhat in the course of the years, though not greatly.

In the following table is given the percentage of male and female epileptic residents in and first admissions to public institution, and of first admissions with respect to private institutions, according to clinical diagnosis (1958).

PER CENT OF EACH SEX ACCORDING TO CLINICAL DIAGNOSIS

	Public institutions				Private institutions	
	Residents		First admissions		First admissions	
Clinical diagnosis	Male	Female	Male	Female	Male	Female
Total	51.8	48.2	61.8	38.2	52.1	47.9
Symptomatic	54.3	45.7	53.7	46.3	53.7	46.3
Toxemic exogenous	45.7	54.3	50.0	50.0	—	—
Toxemic endogenous	45.6	54.4	56.3	43.7	75.0	25.0
Due to brain disease	56.0	44.0	59.4	40.6	49.5	50.5
Unknown	58.8	41.2	33.3	66.7	58.3	41.7
Idiopathic	47.8	52.2	70.3	29.7	52.8	47.2
Unclassified	50.5	49.5	55.5	44.5	41.8	52.2

In public institutions resident epileptics of the symptomatic type have a slightly higher proportion for males than for females—with the idiopathic type females in excess. The proportion for males with the idiopathic type is highest with that form due to brain disease, the remainder of the symptomatic type having numbers too small to count materially. In the matter of the first admissions, the excess for males in the symptomatic type is considerably greater, and with the idiopathic type greater still.

PER CENT DISTRIBUTION OF EPILEPTICS BY SEX IN MENTAL HOSPITALS

	1959		1958		1957		1956		1955	
Hospital	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Total	—	—	—	—	—	—	—	—	—	—
Acute	61.2	38.8	67.4	32.6	60.0	40.0	54.0	46.0	48.8	51.2
Chronic	59.8	40.2	56.4	43.6	51.5	48.5	52.6	47.4	54.9	45.1
Public	—	—	—	—	—	—	—	—	—	—
Acute	61.2	38.8	55.1	44.9	60.7	39.3	55.9	44.1	54.1	45.9
Chronic	59.8	40.2	54.0	46.0	53.1	46.9	50.4	49.6	56.3	43.7
State	—	—	—	—	—	—	—	—	—	—
Acute	—	—	—	—	—	—	—	—	—	—
Chronic	—	—	—	—	—	—	—	—	—	—
County	—	—	—	—	—	—	—	—	—	—
Acute	—	—	—	—	—	—	—	—	—	—
Chronic	—	—	—	—	—	—	—	—	—	—
Psychopathic	—	—	—	—	—	—	—	—	—	—
Acute	100.0	—	100.0	—	60.0	40.0	100.0	—	50.0	50.0
Chronic	45.1	54.9	66.7	33.3	55.2	44.8	64.3	35.7	66.7	33.3
Veterans	—	—	—	—	—	—	—	—	—	—
Acute	—	—	—	—	—	—	—	—	—	—
Chronic	—	—	—	—	—	—	—	—	—	—
Private	—	—	—	—	—	—	—	—	—	—
Acute	48.5	51.5	51.6	48.4	60.5	39.5	46.1	53.7	40.5	59.5
Chronic	41.3	58.7	41.3	58.7	43.9	56.1	50.4	49.6	30.7	69.3
General	—	—	57.1	42.9	69.6	30.4	57.8	42.2	—	—
Acute	48.5	51.5	—	—	—	—	—	—	56.1	43.9
Chronic	53.0	47.0	—	—	—	—	—	—	60.5	39.5

With brain disease the proportions are quite uneven. With private institutions in respect to the affections for the different forms the proportions are somewhat different, but with general tendencies not so.

In the table preceding is given the percentage of male and of female first admissions "with convulsive disorders", with acute and with chronic brain syndromes, to the several mental hospitals—public (state and county), psychopathic, veterans, and private, and with discharges from general hospitals with psychiatric facilities (1955-1959).

The figures for the different items in this table are so varying that scarcely any deductions are possible. In general males have the larger proportions, as has been the case before. In some years psychopathic hospitals seem exclusively for males, though in one or two females appear in the ascendency. Private hospitals more often have a larger proportion of females. In veterans hospitals probably all are male. As between acute and chronic syndromes males seem to have larger proportions for the former, and females for the latter. What significance the figures here may have we do not know.

Chapter VIII

EPILEPTICS BY AGE

In the following table is given the percentage distribution of epileptics in public institutions, and by sex, along with that for the general population (1958).

PER CENT DISTRIBUTION OF EPILEPTICS BY AGE

Age	Epileptics Total	Epileptics Male	Epileptics Female	General Population Total	General Population Male	General Population Female
Total	100.0	100.0	100.0	100.0	100.0	100.0
Under 5	1.3	1.3	1.3	10.8	11.2	10.5
5-9	6.0	5.8	6.4	8.8	9.1	8.6
10-14	10.2	11.5	9.8	7.4	7.7	7.3
15-19	11.8	13.3	11.0	7.1	7.6	7.0
20-24	10.4	11.4	9.1	7.6	7.0	7.3
25-29	10.3	10.8	11.4	8.1	8.0	8.3
30-34	9.9	9.7	11.6	7.6	7.5	7.8
35-39	9.0	8.5	10.1	7.6	7.3	7.3
40 and over	30.5	27.2	38.2	30.9	30.4	31.7
Unknown	0.3	0.5	0.2	4.1	4.2	4.1

Few epileptic children have been found in institutions. Here there have been only 7.3 per cent under ten years of age, as against one-fifth for the population at large. Under twenty are one-fourth, as against one-third for the other group. The large number of epileptics are in the late youth and early adult life, one-half being from fifteen to forty, with one-third for the general population being at this period. Almost one-third of epileptics in institutions have been from twenty to thirty-five. After forty the proportions for the two groups are fairly even. Though epilepsy generally falls in the early years of life, entry into institutions is probably delayed till it becomes desirable or necessary. If epileptics were sent sooner, the proportions in the earlier years would be larger. The higher death rate among epileptics has some effect upon the situation. There are little differences in the proportions for males and for females at most age periods. As with the general population females predominate in the later years of life, but to a greater extent also among epileptics. Female epileptics are liable to be kept longer in institutions.

In the institutions for epileptics the proportions in the earlier years decrease. How far the age distribution of epileptics in the general population will differ from that in institutions, we do not know, but probably not greatly. It is to be remembered that institutions have dealt generally with the more serious cases.

In the following table is given the percentage distribution by age of epileptic residents in public mental hospitals (for prolonged care of those entering)—male and female, according to acute and chronic brain syndromes (1958).[1]

PER CENT DISTRIBUTION OF EPILEPTICS IN MENTAL HOSPITALS BY AGE

Age	Acute	Chronic
Total	100.0	100.0
Under 15	0.3	1.7
15-24	6.1	8.2
25-34	15.3	16.7
35-44	23.7	21.8
45-54	25.3	23.6
55-64	19.0	15.8
65-74	8.0	7.5
75-84	2.0	2.0
85 and over	—	2.3
Unknown	0.3	0.4

Epileptics in public mental hospitals have been in general of a somewhat older age than is the case with respect to the special institutions. In the former only about 6 per cent of acute cases and 10 per cent of chronic have been under twenty-five years of age, while in the latter something like one-fifth have been found to be under twenty. In mental hospitals over three-fourths of both groups have been over thirty-five; in institutions two-fifths have been so. On the whole in the mental hospitals there seems to have been no great difference in the age distribution as between acute and chronic cases, with possibly more of chronic cases under twenty-five. Differences between the sexes likewise do not appear great. Too much stress should perhaps not be placed on the findings here; they are not always entirely the same at different years.

In the following table is given the percentage distribution by age of epileptics admitted to special institutions and to mental hospitals (state, county and city, and private) (1939).

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[1] The numbers for psychopathic hospitals are too small to possess significance—with three-fourths of chronic cases under thirty-five.

PER CENT DISTRIBUTION BY AGE OF EPILEPTICS IN SPECIAL INSTITUTIONS AND TO MENTAL HOSPITALS

Age (Years)	Institutions	Mental hospitals
Total	100.0	100.0
Under 5	0.6	—
5-9	4.1	—
10-14	8.9	2.7
15-19	12.7	6.1
20-24	11.5	9.3
25-29	10.2	11.0
30-39	15.6	19.5
40-49	11.4	22.0
50-59	8.4	18.3
60 and over	5.2	9.0
Unknown	11.4	5.8

According to the figures here epileptics in mental hospitals have been a considerably older group than those in institutions. Under ten there have been practically none in the hospitals. Under twenty have been one-tenth, though in institutions there have been one-fourth. Under thirty there have been three-tenths in the former institution, and almost one-half in the latter. It would seem that epileptics admitted to mental hospitals are there more for therapeutic and less for custodial considerations, and hence are in a more serious condition, and may be expected to remain to older ages. In the institutions males have predominated in the earlier years, and females in the later. In mental hospitals the sex proportions have been of more varying character.

In the first table on the following page is given the median age (one-half above and one-half below) of first admissions of epileptics, and of male and female, to public institutions (1938-1951).

The median age of admission of epileptics to their institutions for these years has been about fifteen or sixteen, having declined by several years during the period in question. Females have had a little higher median age here than males.

In the second table is given the median age for the special institutions and for mental hospitals in contrast, with respect to first admissions for 1938, 1939, and 1940.

MEDIAN AGE OF EPILEPTICS

Year	Total	Male	Female
1951	15.5	10.0	17.0
1950	16.5	13.7	18.7
1949	17.4	14.8	18.6
1948	18.3	15.6	21.0
1947	17.3	14.9	18.9
1946	18.5	15.5	20.3
1945	17.8	16.7	18.5
1944	17.5	16.6	18.2
1943	18.0	16.8	18.8
1942	17.8	15.4	19.1
1941	—	—	—
1940	18.1	16.1	19.3
1939	18.9	—	19.5
1938	19.2	19.1	19.5

MEDIAN AGE FOR INSTITUTIONS AND MENTAL HOSPITALS

	1940	1939	1938
All Institutions	19.5	29.5	26.1
Special Institutions	18.1	18.9	19.2
Mental Hospitals	28.1	27.2	25.1

With respect to mental hospitals the median age for first admissions (about 28) has been some eight years higher than that for institutions, and with respect to inmates (about 39) eleven years higher. This is in keeping with what has been found in the percentage distribution of first admissions according to age.

In the following table is given the percentage distribution by age of first admissions of epileptics to public and private mental hospitals according to acute and chronic disorder (1957).[2]

Entrance of epileptics into mental hospitals has likewise been at an earlier age than into the special institutions. Of those admitted to public mental hospitals somewhat over one-fourth have been under twenty-five, whereas of those admitted to public institutions about three-fourths have been under twenty. After forty the proportion for the one has been about one-third, and for the other about 5 per cent. As between the two forms of epilepsy there again is displayed no decided difference. Such is also

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[2] In Appendix E is given the percentage distribution of admission according to form and clinical diagnosis (1958).

PER CENT DISTRIBUTION BY AGE OF FIRST ADMISSIONS OF EPILEPTICS TO MENTAL HOSPITALS

	Public hospitals		Private hospitals	
Age	Acute	Chronic	Acute	Chronic
Total	100.0	100.0	100.0	100.0
Under 15	2.3	6.8	3.3	3.8
15-24	23.8	24.0	26.7	10.8
25-34	27.5	22.6	36.7	24.3
35-44	18.8	20.2	16.6	17.9
45-54	13.8	13.8	13.3	12.0
55-64	7.5	7.0	3.4	10.7
65-74	3.1	3.3	—	4.4
75-84	0.8	1.0	—	3.6
85 and over	1.6	0.2	—	3.3
Unknown	0.8	0.9	—	—

the case with respect to sex differences. Private mental hospitals, so far as we can see, have admission ages not very different from those of the public hospitals. Acute cases have about two-thirds under thirty-five, as against somewhat over one-half for public. With chronic cases the situation is reversed, public hospitals having a little over one-half at this age and private a little under one-half. For ages over fifty-five the proportion is around one-fifth for private chronic cases and nothing for acute, as against one-eighth for public cases of both kinds. Over the years there appears no great change.

In the following table is given the percentage distribution by age, and for males and females, for first admissions of epileptics to public institutions (1958).

PER CENT DISTRIBUTION OF EPILEPTICS IN INSTITUTIONS BY AGE

Age	Total	Male	Female
Total	100.0	100.0	100.0
Under 5	13.4	11.1	15.2
5-9	24.3	27.6	20.5
10-14	21.8	23.1	20.0
15-19	16.2	16.0	16.5
20-24	5.7	5.1	6.6
25-29	2.9	2.9	3.3
30-34	2.0	1.7	2.3
35-39	2.2	2.8	1.3
40 and over	4.6	4.0	5.8
Unknown	6.9	6.2	7.2

Much the larger number of epileptics admitted to institutions have been in the years of childhood and youth. Over three-fourths have been of this period of life, with one-half from five to fifteen. After thirty the number has been about one in ten, and after forty little more than one in twenty. The considerably higher proportion of first admissions to institutions in the earlier years than of actual residents thereof is doubtless in part to be explained by the relatively brief stay of a number with removal elsewhere. There is also some evidence that some entering at the earlier periods, having failed at the regular schools previously attended and having been transferred to the institution, have after a time resumed attendance at a regular school. There is no great difference between the sexes, except that males appear to be slightly in excess at the earliest age, and females at the very latest.

In the following table is given the percentage distribution by age of first admissions to public institutions for epileptics, according to clinical diagnosis in 1958.

It seems that epileptics of the symptomatic type have entered their institutions at a slightly earlier age than have those of the idiopathic type. The proportion of the former coming there under ten years of age has been about one-half as against two-fifths for those of the latter type. Affections due to brain disease, accounting for so much of epilepsy of the symptomatic type, and toxemic endogenous are not far apart when under ten years of age, something possibly indicating the prevalence of infectious diseases, particularly at this time of life. (The main difference between the proportions for males and those for females is the high proportion for females with the idiopathic type entering at the later ages.) It is to be added that the results from reports of earlier years, though with some variations, are in general not greatly different from those appearing here.

In the table on page 59 are given similar figures with respect to private institutions (1958).

Of the relatively few epileptics entering private institutions most are in the earlier years of life, with a proportion larger than for public institutions—over four-fifths coming before the twentieth year. Private institutions, it is to be remembered, are designed largely for the young. About one-tenth enter before five, some coming in the very first years of life. As between the two types of epilepsy, somewhat more of the symptomatic type seem to enter in the very earliest years, there being double the proportion for this type in the first quinquennium than for the idiopathic; in some years there have been none for the latter at this period. (In general

PER CENT DISTRIBUTION OF EPILEPTICS BY AGE AND CLINICAL DIAGNOSIS

		Symptomatic						
Age	Total	Total	Toxemic exogenous	Toxemic endogenous	Due to brain disease	Unknown	Idiopathic	Unclassified
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Under 5	13.4	18.3	—	14.4	18.5	—	16.0	13.3
5-9	24.3	29.6	—	28.0	28.7	—	25.8	7.7
10-14	21.8	23.3	—	35.7	22.2	—	22.1	19.0
15-19	16.2	14.6	—	7.3	15.2	—	22.1	11.1
20-24	5.7	4.6	—	7.3	4.8	—	9.0	3.1
25-29	3.3	2.0	—	—	2.2	—	7.0	1.1
30-34	2.0	1.6	—	—	1.7	—	3.0	2.2
35-39	2.3	1.0	—	—	1.1	—	7.0	—
40 and over	5.8	5.0	—	7.3	6.4	—	6.0	—
Unknown						—		

PER CENT DISTRIBUTION OF EPILEPTICS BY AGE AND CLINICAL DIAGNOSIS IN PRIVATE INSTITUTIONS

Age	Total	Symptomatic					Idiopathic	Unclassified
		Total	Toxic exogenous	Toxic endogenous	Due to brain disease	Unknown		
Total	100.0	100.0	—	—	100.0	—	100.0	100.0
Under 5	10.0	13.3	—	—	28.7	—	5.3	—
5-9	21.4	22.2	—	—	17.2	—	26.3	26.3
10-14	39.1	40.0	—	—	37.0	—	26.3	42.8
15-19	18.6	6.7	—	—	11.1	—	5.3	28.6
20-24	7.1	14.5	—	—	6.9	—	5.3	14.3
25-29	4.3	6.7	—	—	3.4	—	5.3	14.3
30-34	2.9	2.2	—	—	3.4	—	5.3	5.3
35-39	1.4	2.2	—	—	—	—	—	—
40 and over	7.1	2.2	—	—	—	—	21.1	—
Unknown	11.9	—	—	—	—	—	—	—

males predominate in the first decennium, and females in the second.) Over the years the proportions vary, especially in the earlier years. Because of the relatively small numbers at private institutions, the figures here are to be taken with caution.

Among residents of public institutions for epileptics a larger proportion appears in the earlier years of life for those who are of the symptomatic type. Under twenty are one-third of this type as against one-fifth for those of the idiopathic type. At thirty or over there are one-half of the former as against two-thirds of the latter. Under twenty are one-third of those whose affection is due to brain disease. The two toxemic affections are not far apart at the different age periods, both somewhat concentrated in the upper age ranges. As found in other years, females have the higher proportions in the older ages except with the toxemic endogenous.

In the following table is given the median age of inmates and of first admissions to public institutions for epileptics according to clinical diagnosis (1933).

MEDIAN AGE BY CLINICAL DIAGNOSIS

	Residents	First admissions
Total	32.6	15.3
Symptomatic	26.9	14.0
Toxemic exogenous	30.6	20.6
Toxemic endogenous	34.1	—
Due to brain disease	27.8	17.2
Unknown	25.3	17.4
Idiopathic	34.8	17.0
Unclassified	37.1	17.9

Among inmates the idiopathic type of epilepsy at this time has a higher median age than symptomatic; among the latter type toxemic endogenous has a relatively low age. Among first admissions the idiopathic type also has a higher median age; in the symptomatic type toxemic exogenous has a relatively high age. Females seem in general to have a higher median age than males. The median age for private institutions is appreciably lower than for public. Private institutions in general take in younger persons.

Chapter IX

AGE AT OCCURRENCE OF EPILEPSY

We have little in the way of statistics to indicate at what periods of life epilepsy occurs. The fullest figures are those of W. R. Gowers in "Epilepsy and Other Chronic Convulsive Disorders" (1901, p. 13), which shows the age of onset in 3002 observed cases. We have no later statistics on a wide scale. In the following table is given the percentage distribution according to such age.

PER CENT DISTRIBUTION OF EPILEPTICS ACCORDING TO AGE AT OCCURRENCE

Age	Per cent
Total	100.0
Under 5	15.3
5-9	12.3
10-14	22.0
15-19	24.6
20-29	15.5
30-39	6.3
40-49	2.4
50-59	1.3
60 and over	0.5

It is clear that epilepsy is an affection of the earlier years of life. Over one-fourth occur under ten, three-fourths under twenty, and nine-tenths under thirty. The highest for any quinquennium is under five. Hardly any occur in the later years of life. The time of greatest frequency seems to be the period from seven to seventeen, more often at the later periods, or in childhood and youth. It may begin in babyhood. By some authorities even higher proportions are ascribed to early life. Its occurrence at this period has long been noted by medical men.[1] In one place the matter has thus been stated: "The great majority of cases appear during childhood and youth, during the period of stress when the nervous system yields to influences destined sooner or later [to bring about such results]."[2] In earliest life it appears more likely to result from injuries or infectious diseases, apart from congenital defect, in youth from trauma, and in later years from neoplasms or degeneration of brain cells or blood vessels.

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[1] In an investigation of admissions into certain institutions it was found that with 28 per cent epilepsy occurred before the age of five. *Psychiatric Quarterly*, ii, 1938, p. 27. At the institution in Michigan, 31.8 per cent of first seizures were found to have occurred before five, and 83.5 per cent before twenty. *Mental Hygiene*, xx, 1936, p. 441. In another investigation 37 per cent were found to occur under two years, 20 per cent from two to three, and 10 per cent from four to six. *American*

Journal of Public Health, xlvii, 1947, p. 587. See also Statistical Bulletin of Metropolitan Life Insurance Company, Aug., 1955; *Journal of Maine Medical Association*, xlviii, 1957, p. 257.

[2] Report of New York Board of Charities, 1902, p. 252. See also Proceedings of Michigan Conference of Charities and Correction, 1902, p. 45; *Journal of American* Medical Association, xl, 1903, p. 153; *Genetic Psychology Monographs*, xvii, 1935, p. 369; *American Journal of Psychiatry*, lxxxviii, 1931, p. 551; xcvi, 1939, p. 59.

Chapter X

EPILEPTICS BY RACE AND NATIVITY

The latest statistics we have as to race and nativity groupings of epileptics are for the year 1933. In the following table is given the percentage distribution of first admissions to public institutions for the several groups.[1]

Per Cent Distribution of Epileptics by Race and Nativity

Race and nativity	Total	Male	Female
Total	100.0	100.0	100.0
Native white	90.6	89.9	91.8
Foreign-born white	4.9	5.7	3.9
Negro	3.6	3.8	3.2
Other	0.9	0.6	1.1

Native whites here have naturally composed by far the largest part of the institution population, this including as well children of foreign-born parents. The foreign-born have a proportion considerably less than that in the general population. Negroes have a proportion scarcely one-third of that in the general population. The number of foreign-born is in part reduced because of the severe immigration laws which have barred entry of epileptics into the country. Negroes have had a low proportion because, living largely in the South, there has been relatively little institutional provision for them. With their moving in considerable numbers to the North, they would have had fuller attention. Among the foreign-born, females have had a lower proportion than males, as we would expect. At present the proportion for the foreign-born is quite low, and with little significance. In 1939 of deaths in institutions 2.7 per cent were of Negroes. In 1933 the perecentage was 2.6, and in 1923, 2.4.

In the following table is given the percentage distribution of first admissions for the several groups according to type of epilepsy (1933).

The proportion for idiopathic epilepsy is higher for all groups, and especially so for Negroes.

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[1] In 1923 the percentage foreign born was 7.9 and the percentage Negro 2.4.

PER CENT DISTRIBUTION BY TYPE OF EPILEPSY

Type	Total	Native White	Foreign-born White	Negro	Others
Total	100.0	100.0	100.0	100.0	100.0
Symptomatic	24.8	24.5	26.6	20.7	41.7
Idiopathic	54.3	54.7	46.4	60.9	41.7
Unclassified	20.9	20.8	27.0	18.4	16.6

In the following table is given the percentage distribution of first admissions of epileptics to public institutions by age according to race and nativity (1933).

PER CENT DISTRIBUTION OF EPILEPTICS BY AGE AND RACE AND NATIVITY

Age	Total	Native white	Foreign-born white	Negro	Other
Total	100.0	100.0	100.0	100.0	100.0
Under 10	17.7	18.2	2.5	22.6	16.7
10-19	36.5	37.6	11.5	45.0	54.2
20-29	20.5	20.8	17.2	11.2	20.8
30-39	10.4	9.6	23.7	11.2	4.1
40-49	7.4	7.0	24.6	5.6	—
50-59	8.2	4.3	11.5	3.3	—
60 and over	2.4	2.5	9.0	1.1	4.2

The foreign born appear at this time to have concentrations by age after the years of childhood and youth, perhaps in some measure because their affection came on some years after their arrival in this country. Today they rather belong to still older groupings.[2] Negroes, on the other hand, have had their heaviest concentrations in the earlier years of life, possibly because in such years they could have little medical attention and their placement in institutions seemed desirable.

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[2] Of 123 foreign-born epileptics in 1933 the country of birth was as follows: Italy, 21; Canada, 15; Germany, 14; Poland, 14; Ireland, 10; Russia, 9; England, 8; other countries, 31. In 1923 the percentages for the leading countries were: Germany, 14.8; England, 11.2; Canada, 11.0; Russia, 10.2; Italy, 9.9; Sweden, 7.1.

Chapter XI

EXTENT OF OTHER DEFECTS AMONG EPILEPTICS

Epilepsy is often attended or complicated with conditions of defectiveness or abnormalities, both of a physical and of a mental or psychological nature, including congenital abnormalities. A particular concomitant is what is known as mental defectiveness or feeblemindedness. With certain disorders as meningitis, encephalitis, spastic troubles, or some brain injuries a common origin is the more to be expected. In some cases the coexistence of mental defectiveness is the determining reason for the use of the institution.

In the following table is given the percentage distribution of first admissions of epileptics to public institutions according to the extent that the two affections are found present conjointly or separately—being set down in the one class or the other according to which is the primary or prior conditions—and by sex for the years 1933-1935, these being the latest years for which we have records.

It appears that close to one-sixth of epileptics admitted to the institutions in these years have been mentally defective as well. About one-fourth of the institution population has been epileptic whether with or without mental defectiveness. About one-tenth have been epileptic alone. The proportions have varied greatly in different states.[1] We do not know how far this condition may have prevailed in the non-institutional epileptic population, but probably to much less extent, as epileptics who also are mentally affected are much more likely to be placed in an institution, as we have just seen. Over the years there seems to have been little change on the whole. There appears no great difference with the two sexes as respects the combination of epilepsy and mental defectiveness, though there seem to be more females who are mentally defective but not epileptic, and more males who are epileptic and not mentally defective.[2]

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[1] In Rhode Island 16.8 per cent of mental defectives have been found to be epileptic as well. *American Journal of Mental Deficiency*, lv, 1951, p. 293.

[2] In institutions for mental defectives over the years the clinical diagnoses in 3 or 4 per cent is given as "with epilepsy." Those in institutions neither epileptic nor mentally defective are in general postencephalitic, psychopathic personality, or primary behavior problem cases. As the number of epileptics placed in institutions steadily decreases, the proportion with mental defectiveness becomes constantly less.

Per Cent Distribution of Epileptics According to Connection with Mental Defectiveness

Mental condition	1935			1934			1933		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Epileptic, not mentally defective	8.7	10.1	6.9	9.8	10.8	8.5	9.6	10.3	7.4
Epileptic and mentally defective	15.6	15.6	15.5	15.4	15.3	15.5	13.0	14.1	13.1
Mentally defective, not epileptic	71.4	73.3	73.3	66.7	68.1	71.9	68.1	64.3	72.7
Neither epileptic nor mentally defective and unknown	4.3	4.5	4.3	5.1	5.8	4.1	9.3	11.3	6.8
Total epileptic	24.3	25.7	22.4	25.2	26.1	24.0	22.7	24.4	20.5

In the following table is given the percentage of first admissions of epileptics to public institutions who are also mentally defective, according to the grade of mental defectiveness correlated with the chief forms of epilepsy (1958).

Of epileptics recorded in public institutions for mental defectives and epileptics over four-fifths were reported also as mental defectives. Such are found to a somewhat greater extent with the symptomatic type of epilepsy (with association with disease process, toxic condition, or structural defect) than with the idiopathic (not so associated), or about nine-tenths as against three-fourths. In the former about one-fifth are morons, three-tenths imbeciles, and about three-tenths idiots, these being about the order with the chief affection here, that due to brain disease. It also appears that epilepsy represented by the disorder known as ageneses (imperfect development), constituting as it does so heavy a proportion of brain affections, forms the highest proportion with mental defectiveness, or nine-tenths. It is to be noted that the more serious the degree of defectiveness, the greater is the extent of the symptomatic type. The relative proportions for ageneses, meningo-encephalitis and traumatic disorders varied somewhat from year to year in the past with respect to their connection with mental defectiveness. Such is also the case with respect to the order of the several grades of mental defectiveness.

With the idiopathic type of epilepsy each group makes up one-fourth or a little more, but mostly in reverse order from the symptomatic type. In the form designated as with psychogenic factors there is a very low proportion for idiots, and a low one, hardly one-tenth, but double, for imbeciles. With the years there are some changes here also in the order and in the several proportions, but on the whole not great. In nearly all cases idiots have the highest proportions. With the traumatic disorders it is possible that the original injury has been responsible for both the condition of epilepsy and that of mental defectiveness.

It is to be remembered in this connection that reference is only to those epileptics who are in special institutions, and who make up the more severe cases. With epileptics in general, or those outside the institutions, the conjunction with mental defectiveness would doubtless be far less.

In the table on page 69 is given the percentage distribution of first admissions of epileptics to public institutions by clinical diagnosis in correlation with the several grades of mental defectiveness (1958).

The results here are in accordance with what has been found in the preceding table. With the symptomatic type of epilepsy the proportion

PERCENTAGE OF EPILEPTICS WITH MENTAL DEFECTIVENESS

		Symptomatic					Idiopathic	
			Due to definite brain disease					
Grade of mental Defectiveness	Total	Total	Total	Meningo-encephalitic	Traumatic	Ageneses	Total	With psychogenic factors
Total	85.3	89.8	87.8	88.7	84.4	90.0	77.0	54.8
Idiots	30.7	35.2	36.5	30.2	37.8	37.8	24.4	6.4
Imbeciles	30.7	31.1	29.1	37.7	22.2	31.4	30.5	12.9
Morons	23.8	22.3	22.4	20.8	24.2	20.7	26.6	35.5
Unclassified	9.1	8.7	8.4	9.4	8.8	10.7	8.5	16.1

PER CENT DISTRIBUTION OF EPILEPTICS BY CLINICAL DIAGNOSIS AND GRADE OF MENTAL DEFECT

Clinical diagnosis	Total	Normal	Mental defectives				
			Total	Idiot	Imbecile	Moron	Unclassified
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Symptomatic	59.0	27.8	60.0	65.0	59.7	53.2	55.8
Toxemic exogenous	0.9	—	1.0	—	1.2	2.2	—
Toxemic endogenous	3.4	—	3.9	4.4	1.1	2.8	1.9
Due to brain disease	49.4	27.3	50.0	59.9	47.6	45.7	48.1
Cardiovascular	2.7	12.3	1.6	1.1	0.7	3.3	1.9
Meningo-encephalitic	9.0	3.3	9.8	9.1	11.5	7.8	9.4
Traumatic	7.9	9.7	7.9	9.3	5.9	7.8	7.5
Ageneses	23.4	—	25.1	30.0	24.5	20.6	29.4
Unknown	5.7	3.3	6.1	9.1	4.7	5.6	0.8
Unknown	4.7	—	2.2	3.3	6.9	2.8	4.4
Idiopathic	31.4	54.5	30.0	25.0	32.0	35.8	30.8
With psychogenic factors	5.5	27.3	2.9	1.1	2.3	7.8	9.4
Others and unknown	25.6	27.3	26.3	24.0	29.5	25.8	21.2
Unclassified	9.6	17.5	10.0	10.0	8.3	12.1	13.5

of cases where mental defectiveness coexists with epilepsy is greater than the proportion of cases where there is no such coexistence. In that form due to definite brain diseases, composing as it does most of the symptomatic type, it is accounted for in ageneses, which has a very high proportion here against none for the normal, with the other brain affections varying from year to year. With idiopathic epilepsy the proportion is greater where there is no such coexistence between epilepsy and mental defectiveness. The proportion for idiopathic epilepsy with psychogenic factors is notably low with the connection.

It is again to be observed that with the severity of the mental defect there is a progressive decline for the symptomatic type of epilepsy—highest for idiots and imbeciles, and lowest for morons, such being particularly true of affections due to brain disease, but not so with cardiovascular; with the other brain affections the order varies. Our figures for the two toxemic forms are too small to permit any deductions. With idiopathic epilepsy where there are involved psychogenic factors the reverse process seems to be the case.

The proportions for the two sexes vary somewhat among the several groups. With the symptomatic type of epilepsy females appear to have much the same proportions who are mental defectives as is the case with males. This is true of some of the forms included under affections due to brain disease, but not of all. In some years the traumatic form has been more in evidence with males in mental defectiveness, something that might be expected with their greater liability to external injuries. With the two toxemic affections females have larger proportions.

With the idiopathic form of epilepsy a larger proportion of females have mental defectiveness coexistent, including cases where there are involved psychogenic factors, though this is not true in all years.

In general in reports of other years there are certain variations from year to year, but on the whole the picture given here may be regarded as a fair one.

As there are changes in the relative proportions for the two sexes, both together and separately, at different years, too much stress should perhaps not be placed on the findings here; they are believed, however, to throw some light on the matter. It is to be kept in mind also that our statistics relate only to those in institutions, and not to those outside. The former probably in large part represent the more serious cases. There must also be recognition of differences in making determinations in clinical diagnoses in different places.

From earlier reports as well as from more recent it would seem that in so far as classification is made, idiopathic epilepsy is something like twice as frequent among mental defectives as is symptomatic epilepsy, with the difference the more pronounced the greater the degree of intelligence possessed. It would also seem that the lowest grade of intelligence, that in idiots, is less likely to be epileptic than the two other grades of mental defectiveness.

It is well that epileptics are withdrawing from institutions for mental defectives, a place where they have never belonged. As we have seen, they are no longer mentioned in Federal reports for the latter class. It is unfortunate that the two classes have had to dwell together in this forced association. It has not been good for either class, nor for society in general. Apart from possible deleterious effects on one class or the other, it has kept the public from appreciating the true nature of the disorder involved in each, and has caused the two to be confused in the public mind. The public has come to feel that the two disorders are allied, perhaps springing from a common mental derangement, something reflected in the language of the law; here often epileptics have been set down with mental defectives, and almost as often with the mentally ill, all possibly known as "incompetents." When institutions for mental defectives, as the more numerous class, first came into being, it was hardly other than natural for epileptics to be thought of as fit associates in such places, and in part because there was no other receptacle for them. Even when a special institution for epileptics was established, it was not long before it became an institution for both classes.

At present no little is being learned about epilepsy. Great progress is being made in the discovery of drugs that will do much for epileptics, particularly in the control of seizures. Epileptics are more and more taking their place and being assessed as normal persons. They are felt to be in less and less need of institutionalization—unless there is some other affection involved, especially in the limited number of cases where actual mental defectiveness coexists. For the great number of epileptics of the land, institutionalization is becoming a thing of the past. Even where such provision was called for in years that are gone, it should have been of another order.

Mental illness prevails among epileptics to a somewhat greater extent than in the general population, epilepsy sometimes being a concomitant of or resulting in such mental trouble.[3] With some epileptics (apart from a possible common origin) there may be involved to some extent personal abuse or difficulties in social adjustment or misuse of certain drugs. At times there may be involved physiological disturbance or change. It is sometimes said that one-fifth of epileptics are mentally ill, or have progressive mental deterioration and that 5 or 6 per cent of the mentally ill are epileptic. In our previous studies we have found that several per cent of residents and a smaller per cent of first admissions in mental hospitals—public, state, county, veterans, psychopathic, general with psychiatric facilities; and private—have been "with convulsive disorder."

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[3] *American Journal of Psychiatry*, c, 1944, p. 361. See also Ohio State Medical Society, Relation of Epilepsy to Insanity, 1871.

We do not know the extent that such conditions as cerebral palsy, spastic disorders, or crippled conditions exist as concomitants with epilepsy in the general population, probably somewhat more than with non-epileptics. Nor do we know to what extent are to be found such affections as blindness or deafness. With some there is emotional disturbance.

The existence of other defects among epileptics may be noted in the former almshouse population (1923). While epileptics constituted 1.4 per cent of all here, they constituted 2.5 per cent of all defectives. In the following table is given the number of persons having one or more defects, mental or physical, in addition to epilepsy (0.5 per cent of the total almshouse population).

NUMBER OF PERSONS WITH DIFFERENT DEFECTS BESIDES EPILEPSY

Epileptic and insane	29
Epileptic and feebleminded	201
Epileptic and deaf-mute	5
Epileptic and blind	9
Epileptic and crippled	92
Epileptic, insane, and feebleminded	3
Epileptic, insane, and deaf-mute	1
Epileptic, insane, and crippled	3
Epileptic, feebleminded, and blind	3
Epileptic, feebleminded, and crippled	45
Epileptic, deaf-mute, and crippled	2
Epileptic, blind, and crippled	1

NOTE TO CHAPTER XI.—On the connection of epileptics with mental defectives, see P. H. Hoch and R. P. Knight, Epilepsy, Psychiatric Aspects of Convulsive Disorders, 1947, p. 334; Report of Ohio Board of Charities, 1875, p. 5; Pennsylvania Board of Public Charities, 1893, p. 32; 1894, p. 15; New York State Board of Charities, 1897, p. 59; Massachusetts Board of Lunacy and Charities, 1892, p. 109; 1894, p. 130; Message of Governor of Massachusetts, 1895, p. 27; reports in general of state departments of public welfare and of mental hygiene, and similar bodies;

Proceedings of National Education Association, 1902, p. 845; National Conference of Charities and Corrections, 1906, p. 269; 1912, p. 342;

School and Society, ii, 1915, p. 112; iv, 1918, p. 723; *American Journal of Mental Deficiency*, lvi, 1952, p. 888; *Training School Bulletin*, xxxviii, 1942, p. 174; *Illinois Medical Journal*, xxii, 1912, p. 305; *American Journal of Psychiatry*, xcviii, 1942, p. 733; 1944, p. 497; cxii, 1952, p. 375; *American Journal of Speech and Hearing Disorders*, xviii, 1953, p. 290; xix, 1954, p. 327; *Neurology*, v, 1955, p. 419; *Medical Clinic of North America*, viii, 1924, p. 193; *Journal of Neurology, Neurosurgery, and Psychiatry*, xxiv, 1961, p. 213.

Chapter XII

DEATH RATES AMONG EPILEPTICS

In the following table are given the death rates (per 100,000 of general population) for epileptics in public institutions and for the general population from 1941 to 1952 (there being no later figures for epileptics).

Death Rates among Epileptics

Year	Epileptics	General population
1952	34.1	9.6
1951	31.4	9.7
1950	31.8	9.6
1949	37.5	9.7
1948	38.1	9.9
1947	39.6	10.1
1946	47.7	10.0
1945	43.0	10.6
1944	48.1	10.6
1943	43.5	10.9
1942	41.1	10.4
1941	41.8	10.5

The mortality rate among epileptics in their institutions is seen to be three or four times that of the general population. With the years there has been a decline in both cases, in fairly parallel lines. We have no means of ascertaining the death rate among epileptics at large, or outside the institution. In view of the possibly better care to be expected in institutions we might look for a lower rate there in contrast with the frequent neglect and sparing attention for those with no institutional ties, though this consideration is somewhat offset by the consideration that the more serious cases are the ones more likely to be placed in the institutions. The rate varies with different states, in general according to the treatment extended in different ones. We may possibly assume that the death rate in private institutions is a trifle lower than in public. When the rate for epileptic and mental defectives are taken together the rate for males is somewhat higher than for females over the years.[1]

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[1] On death rates among epileptics, see L. J. Dublin, Twenty-five Years of Human Progress, 1937, p. 34; Transactions of American Association on Mental Deficiency, 1928, p. 53; United States Vital Statistics, 1958 *Medical Record,* xxxiii, 1888, p. 467; Journal of Nervous and Mental Diseases, xix, 1892, p. 177; lxxv, 1932, p. 382; *Psychiatric Quarterly,* ii, 1937, p. 104; *Journal of American Medical Association,*

The decline in the death rate in institutions is to be attributed to improved living conditions in general, to better control of diseases, especially infectious diseases, and to better therapeutic treatment, particularly in the use of efficacious drugs, and to greater medical skill in general in keeping people alive. (The epilepsy mortality rate is 1.3 per 100,000 of population.)

In the following table is given the number of deaths per 100 first admissions to public institutions and to state hospitals for the mentally ill from 1938 to 1944.

DEATH RATES IN INSTITUTIONS AND MENTAL HOSPITALS

Year	Institutions	Mental hospitals
1944	61.8	52.8
1943	52.1	36.4
1942	45.8	37.7
1941	44.8	26.8
1940	40.6	36.6
1939	44.1	27.9
1938	46.4	28.9

The death rate in relation to first admissions in these years is considerably higher with institutions than with mental hospitals, one-third or one-fourth greater. This may be due to better treatment at the latter which are designed more for therapeutic treatment than for mere custodial care. The length of stay in institutions, which is usually more prolonged than in hospitals, which to some extent are for life, may have some part in the matter. The matter is also affected by the extent of discharges and transfers in each. Of the several forms of mental hospitals, as found in 1942, the highest death rate is in veterans hospitals, very likely for the reason that they have received the more serious or fargone cases; the percentage for deaths here is 15.7, as against a percentage of 8.6 for first admissions. County and city hospitals appear to have the best record, or 0.8 per cent for deaths and 4.2 per cent for first admissions, perhaps because they receive less serious cases. The respective percentages for state hospitals are 83.6 and 87.2.[2]

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clvi, 1954, p. 1154. On suicide, see *Journal of Nervous and Mental Diseases*, xxxvii, 1934, p. 377; xliv, 1941, p. 727.

[2] Among policy holders of a certain life insurance company the death rate for epilepsy per 100,000 for the years 1911-1920 was 4.1 for white males and 2.7 for white females, and for the years 1921-1931, 2.8 and 1.8 respectively. For colored males the respective rates were 5.7 and 4.1, and for colored females, 3.5 and 1.9. Statistical Bulletin of Metropolitan Life Insurance Company, April, 1932; Aug., 1951.

In the following table is given the percentage distribution of epileptics by age at time of death and of the general population, according to Vital Statistics of the U. S. Public Health Service (1955).

PER CENT DISTRIBUTION OF EPILEPTICS BY AGE AT DEATH

Age	Epileptics	General population
Total	100.0	100.0
Under 5	5.5	8.1
5-9	4.5	0.6
10-19	11.1	1.1
20-29	10.2	1.9
30-39	18.4	3.1
40-49	17.1	6.7
50-59	11.6	12.5
60-69	8.4	21.1
70 and over	0.6	44.9
Unknown	12.6	0.1

Epileptics in comparison with the general population die rather in the earlier years of life, few passing away in the later years. During the first decennium the respective proportions are little different, or 10.0 per cent for epileptics and 8.7 per cent for the general population. But through youth and early and middle adult life the proportion for epileptics is far ahead. From ten to forty-nine over three-fifths meet death for the one as against a little over one-tenth for the other. After sixty the respective proportions are less than one-tenth and two-thirds; and after seventy, 0.6 per cent and 44.9 per cent. It seems here that three-fifths of epileptics have died after thirty, as against nine-tenths for the general population, so far as those in institutions are concerned. Doubtless in later years the proportion is higher for epileptics dying in older years of life, beyond the years of childhood and youth, and coming nearer to the rate for the population in general.

In the following table is given the percentage distribution of epileptics in public institutions by age at time of death according to type of epilepsy (1933).

According to these figures, epileptics in institutions die at a relatively early age. One-half meet death before thirty, and three-tenths before twenty. Death appears to come earlier to symptomatic epileptics, over one-half of them dying before thirty, and over one-third before twenty. The respective proportions for idiopathic epileptics are less than one-half and less than three-tenths. The death rates of epileptics dying outside

PER CENT DISTRIBUTION OF DEATHS BY AGE

Age (in years)	Total	Symptomatic	Idiopathic	Unclassified
Total	100.0	100.0	100.0	100.0
Under 5	2.5	2.3	1.4	4.4
5-9	5.1	5.7	4.4	5.6
10-14	9.7	12.0	3.3	10.7
15-19	12.6	14.9	13.5	8.5
20-24	10.0	11.4	8.1	10.3
25-29	11.8	5.1	12.3	11.3
30-34	8.5	4.0	8.3	18.7
35-39	6.0	5.7	8.7	5.6
40-44	7.0	9.1	7.3	7.2
45-49	7.0	6.3	7.5	5.0
50-54	5.2	4.6	5.0	4.7
55-59	4.9	1.1	5.8	3.8
60-64	3.0	5.7	3.0	4.1
65 and over	6.8	12.1	6.4	8.1

of institutions we do not know. As previously pointed out, the better care taken in institutions is more or less offset by the circumstance that they take in the more serious cases. As found in a previous report, slightly more of females than of males die at the very earliest ages.

In general the death rate for epileptics is higher in the earlier years than in the later (especially after fifty).[3]

In the following table is given the median age (half-way number) of deaths for the two types of epileptics in public institutions, and for males and females separately (1936-1939).

The median age for epileptics in institutions at the time of death is seen to be close to thirty, considerably below that for the general population. Again epileptics of the symptomatic type are found to die at an earlier age than those of the idiopathic—by several years. Males in general die at an earlier age than females. Possibly in later years certain changes in death rates would be found to have occurred. Without doubt epileptics today live longer.

In the table on page 79 is given the percentage distribution of first admissions to and deaths in public institutions for epileptics according to type of epilepsy for the years 1940-1944.

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[3] See Metropolitan Life Insurance Statistical Bulletin, Aug., 1951. In the Michigan institution there were four-fifths found to die before fifty-five, and one-fifth before one year, and three-fifths before five years there. *Mental Hygiene*, xx, 1936, p. 441.

Median Age at Death of Epileptics

Type	1939			1938			1937			1936		
	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female
Total	31.9	31.5	32.3	28.9	27.8	30.1	30.3	30.0	30.5	29.1	27.3	31.5
Symptomatic	—	—	—	23.3	23.0	23.5	24.8	24.8	—	21.0	21.0	—
Idiopathic	—	—	—	30.2	28.1	32.8	31.8	30.4	33.4	31.8	29.7	34.3

Per Cent Distribution of First Admissions and Deaths

Type of epilepsy	1944		1943		1942		1941		1940	
	Admissions	Deaths	Admissions	Deaths	Admissions	Deaths	Admissions	Deaths	Admissions	Deaths
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Symptomatic	33.9	32.1	33.4	30.5	23.9	29.2	25.0	24.0	22.2	28.4
Toxemic exogenous	1.0	1.6	1.6	2.0	0.6	1.9	1.7	0.9	1.5	2.7
Toxemic endogenous	3.2	2.7	3.7	3.0	3.3	4.7	2.7	5.4	1.9	2.4
Due to definite brain disease	23.8	17.7	22.7	20.3	18.9	23.4	20.1	17.4	18.3	18.4
Unknown	5.8	10.0	5.4	5.2	1.8	1.1	0.5	0.7	6.4	5.0
Idiopathic	52.8	57.7	57.4	59.5	48.4	54.7	59.7	63.4	53.4	58.8
Unknown	13.3	10.2	9.2	10.0	27.7	16.1	15.3	12.6	24.4	12.8

On the whole death rates in relation to first admissions appear slightly greater with the idiopathic type of epilepsy than with the symptomatic. Among the latter this seems to be notably the case for brain disorders, though not for all years.[4] There appear to be no great differences between the sexes with respect to the types of epilepsy involved.

In the following table is given the percentage distribution of causes of deaths among epileptics in public institutions (1938).

Per Cent Distribution of Causes of Deaths among Epileptics

Cause of Death	Total
Total	100.0
Infectious and parasitic disease	6.9
Cancer and other malignant tumors	1.8
Rheumatic, nutritious, endocrine, etc., diseases	3.2
Diseases of blood and blood-making organs	0.4
Chronic poisonings and intoxicants	—
Diseases of nervous system and of special senses	33.7
Diseases of circulating system	12.4
Diseases of respiratory system	23.9
Diseases of digestive system	5.3
Disease of genito-urinary system	2.4
Diseases of pregnancy and puerperal state	—
Diseases of skin and cellular tissues	0.4
Diseases of bones and organs of locomotion	0.1
Congenital malformations	0.1
Diseases of early infancy	0.5
Senility	0.8
Violent and accidental	5.1
Other	3.0

It is to be kept in mind that classification of causes of deaths among epileptics would be somewhat different today. Of causes of such deaths here recorded in institutions, diseases of the nervous system and special senses occupy, as might be expected, the first place, considerably ahead of any other cause, with a proportion around one-third. Next come diseases of the respiratory system, with about one-fourth. Following at some distance are diseases of the circulatory system, with one-eighth or one-tenth. These three disorders together constituted something like two-thirds of all the deaths of epileptics in institutions. To infectious and parasitic diseases, diseases of the digestive system, and violent and accidental deaths, each are ascribable about one-twentieth. Rheumatic, nutritious, and endocrine diseases, cancer and other malignant tumors, and diseases of the genito-urinary system each account for about 2 per cent. Chargeable with less than 1 per cent each are senility, diseases of blood and blood-making organs, diseases of skin and cellular tissues, diseases of bones and organs of locomotion, congenital malformations, and diseases of early infancy. The two remaining causes, those connected with poison or intoxicants and with childbirth, are practically nil. As between the sexes no great differences on the whole are to be discovered except that with males violent and accidental deaths are somewhat more frequent.

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[4] Causes of death among epileptics at Craig Colony, New York, in 1957 were thus distributed in percentages: malignant neoplasms, 4.8; epilepsy, 22.6; vascular diseases, 14.4; diseases of heart, 16.1; cardiovascular-renal, 3.2; pneumonia, 8.1; congenital malformations, 3.2; accidents, 3.2; others, 24.3.

Certain causes are found more often with epileptics than with the general population, and others less often. Much more often with epileptics are diseases of the nervous system, and of the respiratory system, also more often are diseases of the circulatory system. Less often with epileptics are cancer and other malignant tumors, infectious and parasitic diseases, and violent and accidental deaths—the first named being much less frequent. With respect to other causes no great differences appear between the two groups. The differences that do appear are no doubt in some part due to the peculiar physical and nervous structure of epileptics. Age factors are also of some effect, the exact nature of which we do not fully know. Cancer is of less extent with epileptics in consequence of its occurrence in the later years of life not often reached by them. Deaths by violence or accident are less with epileptics because of their more protected lives while in institutions.

In the following table is given by a different classification the percentage distribution among certain specific causes of death for epileptics in public institutions (1933), together with that for the general population.

Here "epilepsy" is set down as the outstanding cause, not far below one-half.[5] Pneumonia is accountable for one-eighth—a proportion three times that for the general population; tuberculosis, for one-tenth—a proportion over twice as great. Causes having lower proportions than for the general population are violent and accidental deaths (one-third as

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[5] Of deaths in the Michigan institution 60.9 per cent have been directly charged to epilepsy, with it as a contributing factor in 13.7 per cent in addition.

Cause of Death	Epileptics	General Population
Total	100.0	100.0
Influenza	1.7	1.4
Tuberculosis	10.7	4.2
Other epidemic, endemic, and infectious diseases	2.0	2.8
Cancer and other tumors	1.6	11.4
Cerebral hemorrhage, apoplexy	2.6	7.8
Epilepsy	42.1	1.2
Other diseases of nervous system	2.4	1.9
Myocarditis	3.2	14.3
Other diseases of circulatory system	4.8	15.4
Pneumonia	14.0	5.9
Other diseases of respiratory system	2.3	0.4
Diarrhea and enteritis	2.2	1.1
Other diseases of digestive system	2.0	4.6
Diseases of genito-urinary system	2.1	8.8
Violent and accidental deaths	3.5	8.8
Other and unknown	2.8	3.4

many), genito-urinary diseases (one-fourth), certain digestive diseases (one-half), cerebral hemorrhage and apoplexy (one-third), certain heart and circulation disorders (one-third), and cancer (one-seventh). Causes having larger proportions than in the general population are diarrhea and enteritis, certain respiratory diseases, certain nervous diseases, and influenza.

When epilepsy is to be regarded as a cause of death, some part is doubtless to be attributed to the effects of suffocation during seizures as well as to the exhaustion resulting from protracted series of seizures. When it is set down as a cause of death, the real cause may at times be something else.

With the changes in the proportions of different causes of death in the general population, there is likely to have been somewhat corresponding changes with respect to epileptics, but how far we do not know. Some of the causes here mentioned are much less known today. The decrease of deaths from diseases particularly affecting epileptics will have most pronounced effect. This is notably true of such diseases as tuberculosis, pneumonia, and influenza, with their steady reduction in society, as well as certain infectious diseases of infancy already referred to.

Chapter XIII

MARITAL CONDITION OF EPILEPTICS

In the following table is given the percentage distribution of epileptics in institutions, public and of first admissions thereto, according to the type of epilepsy for the several marital groups (1923).

PER CENT DISTRIBUTION OF EPILEPTICS ACCORDING TO MARITAL CONDITION

	Inmates	First admissions		
Marital condition	Total	Total	Symptomatic	Idiopathic
Total	100.0	100.0	100.0	100.0
Single	81.9	79.3	75.4	79.4
Married	12.3	14.9	17.4	15.0
Widowed	3.6	2.8	4.0	2.6
Divorced	1.5	2.0	2.2	2.2
Unknown	0.7	0.8	1.0	0.8

According to these figures only about one-sixth of epileptics in institutions were found to be or to have been married, and only about one-eighth still so—a proportion much less than that for the population in general. This is in part because a large number have been placed in institutions before the usual age for marriage. At the same time in some areas such marriages are forbidden by the law, while public opinion has often had some effect in the matter. Possibly some of those listed as married became epileptic after marriage. In institutions marriage has of course not taken place. Marriages and widowhood are more often the case with females, in keeping with the situation with the general population. In divorce epilepsy may itself be at least a contributing factor; it appears the more often with epileptics than with the general population. There seems little difference in the marital condition as between symptomatic and idiopathic epilepsy. How far the whole matter would be changed with statistics of the present day we do not know; but it is likely that there would be a larger proportion in the divorced category.

In a more recent investigation it has been found that where 45.5 per cent of epileptics were married, the proportion was 22.5 per cent for those whose onset occurred under ten years of age, but 69.5 per cent for those whose onset was at twenty years of age or older. The difference appears greater in the case of males than of females.[1]

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[1] See *Journal of American Medical Association,* clii, 1953, p. 1690. Of inmates of an institution in Michigan, 82.0 per cent were found to be single, 11.5 per cent married, 2.6 per cent widowed, 3.5 per cent divorced, and 0.4 per cent separated. Females had been married to a greater extent than males. *Mental Hygiene,* xx, 1936, pp. 441. Of epileptic war veterans 62.7 per cent were reported single. U.S. Office of Veterans Benefits, Facts in Brief pamphlet No. 226, 1960.

Chapter XIV

EXTENT OF SCHOOLING AMONG EPILEPTICS

In the following table is given the percentage of first admissions of epileptics to public institutions by age according to the degree or grade of schooling or last school grade that had been obtained for 1935—the only year with such statistics.

Per Cent Distribution of Epileptics by Age According to School Grade

Grade	Total	Under 8	8-10	11-13	14-16	17 and over	Grade unknown
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
None	33.6	—	—	0.4	—	—	63.1
First	3.2	—	—	4.5	0.6	1.5	2.5
Second	4.5	—	—	5.4	1.7	—	2.9
Third	6.7	—	—	12.0	3.1	1.5	6.6
Fourth	7.0	—	—	19.0	7.5	3.6	3.4
Fifth	6.7	—	—	19.0	8.1	1.5	3.8
Sixth	8.1	—	—	19.0	14.8	5.8	3.5
Seventh	7.2	—	—	8.7	17.5	10.2	2.5
Eighth	15.1	—	—	10.3	38.2	23.4	6.2
Ninth (high school)	6.8	—	—	0.8	7.7	49.6	3.0
Special and ungraded	1.1	—	—	0.9	0.8	2.9	2.5

It appears here that the education of epileptics in institutions has been considerably retarded.[1] Of the total number reported one-third had had no schooling at all, though of course some of them were too young for the purpose. Doubtless some had attended school before being placed in an institution. Only about one-sixth had continued to the eighth grade. Of those from eleven to thirteen one-fifth had completed the fifth grade, and of those from fourteen to sixteen somewhat under two-fifths had completed the eighth grade. Of those seventeen years of age and over one-half had been to high school. It is to be remembered that at this time the normal child eight years of age should have completed the second school grade, the child eleven years of age the fifth grade, and the child fourteen years of age the eighth. Doubtless today figures for schooling with epileptics would be appreciably higher, whether in institutions or not.

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[1] Of inmates in the Michigan institution it was found that 21.9 per cent had no formal education, and that 91.2 per cent had not entered high school. *Ibid.*

In the following table is given the percentage distribution of male and female first admissions to public institutions according to the school grade completed for the two types of epileptics (1933).

PER CENT DISTRIBUTION OF ADMISSIONS BY TYPE

	Male			Female		
School grade	Total	Symptomatic	Idiopathic	Total	Symptomatic	Idiopathic
Total	100.0	100.0	100.0	100.0	100.0	100.0
None	32.5	28.3	30.4	35.2	33.7	34.9
First	3.8	2.7	4.5	2.4	1.7	1.9
Second	5.1	4.5	5.4	3.6	4.1	3.8
Third	5.9	5.4	6.2	7.9	5.8	8.2
Fourth	6.9	9.6	5.3	7.2	8.7	7.0
Fifth	6.7	6.3	7.6	6.6	6.4	7.0
Sixth	7.8	8.7	7.6	8.4	9.3	7.2
Seventh	7.6	6.0	9.1	6.5	7.6	6.3
Eighth	15.8	18.4	16.1	14.0	13.4	15.1
Ninth (high school)	6.8	8.3	7.1	6.8	7.0	6.8
Special and ungraded	1.1	1.8	0.7	1.4	2.3	1.0

Males on the whole appear to have had slightly more schooling than females. Symptomatic epileptics of both sexes appear to have had slightly more than idiopathic. The differences in general for the several grades are not great.

The limited school attendance of epileptics is in part explained by their difficulties in this respect, and by the circumstances that an appreciable portion are also affected mentally. Doubtless the situation is better today.

Part II

LEGAL TREATMENT OF EPILEPTICS

Chapter XV

LEGISLATION RESPECTING EPILEPTICS

The law respecting epileptics is to be found in several sources—in textbooks or treatises, in digests or encyclopedias, in statutes enacted by the legislature, and in decisions rendered by the courts. Statutory laws affecting epileptics are included for the most part with laws applying to mental defectives and the mentally ill, or to "incompetents" in general. One division of such laws has to do primarily with the concern of the general public in the matter of epileptics, its concern having priority over the immediate concerns of these classes, though in fact they may not be far apart. Much the larger part of the legislation of this nature has had to do with the provisions for the establishment and maintenance of institutions, including provisions as to admission or commitment, in most states having been the core of the legal enactments relating to them. To a less extent are laws authorizing private institutions or homes for their care. Apart from such considerations, there are laws of smaller compass requiring the report of cases of epilepsy by medical practitioners. Next comes the matter of marriages of epileptics, a matter largely of eugenic concern, and regarded as of great importance for the well-being of society, especially with respect to the possibilities of like condition in the offspring of such marriages. Of kindred character, and theoretically of great moment eugenically, is the matter of asexualization or sterilization, for the prevention of offspring to epileptic persons. (Laws as to transportation and the like are not included.)

A second division of legislation affecting epileptics may be said to embrace laws for their protection or for their benefits. Here are found laws for the guardianship of the person against abuse or mistreatment or violence. Very important in the eyes of the law is the matter of sexual relations with epileptics. A considerable subject also here is the attitude of the law as to wrongful acts committed by epileptics which by other persons might be denoted crimes.

A third form of statutory regulation applying to epileptics is concerned with what can perhaps be characterized as laws discriminatory respecting them, or denying them the rights or privileges granted to normal persons, though in a measure these laws may be for their benefit or protection no less. Leading examples are the laws forbidding the driving of automobiles by them, or in restraint of their free movements, or in possible restriction of adoption in families. (Laws as to institutions are considered elsewhere.)

In certain states there is required, for the most part from physicians (in general also as to motor vehicle authorities) reports as to conditions of epilepsy discovered. Included are California,[1] Connecticut,[2] Delaware,[3] Indiana,[4] Michigan,[5] Nevada,[6] New Jersey,[7] Ohio,[8] and Oregon.[9] In states where enumeration of "defectives" is required, epileptics might be included.

In most of the states of the American Union marriages of persons mentally affected are not permitted. Nearly everywhere there is reference to mental unsoundness. In some of the states the mentally defective and the mentally ill (insane) are expressly mentioned; to an ever lessening extent are epileptics mentioned, though possibly at times laws as to other classes might be made to apply to them. In a few states marriage in which an epileptic is involved is permissible under given conditions. Interdiction of such marriage may take several forms, in some states more than one being found: direct prohibition of marriage, prohibition of issuing of marriage license, prohibition of performing of marriage ceremony, holding of such marriages to be void or voidable or to be annulled or as a ground of divorce—in the latter circumstances particularly when there was ignorance of the condition. States having had laws with reference to epileptics are: Delaware,[10] Missouri,[11] Nebraska,[12] New Jersey,[13] North Carolina,[14] Utah,[15] Virginia,[16] Washington,[17] and West Virginia.[18] Most of these states have repealed their prohibitory laws, removing the term "epileptic."[19]

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[1] Code, Health and Safety, §§ 211, 410, 411.

[2] Gen. Stat. § 6.14.16.

[3] Ann. Code §§ 24-1763, 24-1766.

[4] Ann. Stat. §§ 35.271-35-274.

[5] Stat. § 14.810.

[6] Rev. Stat. § 439.270.

[7] Stat. §§ 26:5-1, 5-13.

[8] Rev. Code § 3321.29.

[9] Rev. Stat. § 482.140.

As a supposed, and ever decreasing, measure of checking the spread of epilepsy or of reducing its extent, there have been adopted in a number of states legal provisions authorizing sterilization or asexualization, a surgical operation to prevent parenthood or the begetting of offspring to persons suffering with epilepsy, though not to the same extent as laws applying to the mentally ill or mentally defective. In nearly all the states the law has been compulsory, the consent of the person concerned not being required. In a smaller number application might be compulsory or voluntary, possibly with the consent of family or guardian. In nearly all the states the law has demanded careful review of the situation by medical or other specialists. In the larger number there has been designated state agencies for the purpose; in the smaller number a special eugenics board. There was in general to be due notice to those concerned, with full hearings. Operations were to be in skilled hands, without pain, and at public expense. In the majority of these states the operation was confined to inmates of institutions; in the remainder it was of extra-mural character, applying as well to persons outside. Illegal sterilization was usually made a crime in itself.

In certain states the laws have been held by the courts to be unconstitutional: in New Jersey in 1913; in Nevada (Federal) in 1915; in New York in 1918; in Michigan in 1918 (later amended); in Indiana in 1921 (later amended); in North Carolina in 1933 (later amended); in Alabama in 1935 (later amended). In this case also in a number of states, the law has been repealed. States having had specific mention of epileptics are: Arizona,[20] Delaware,[21] Idaho,[22] Indiana,[23] Iowa,[24] Kansas,[25] Mississippi,[26] Montana,[27] New Hampshire,[28] North Carolina,[29] North Dakota,[30] Oklahoma,[31] Oregon,[32] South Carolina,[33] Utah,[34] Virginia,[35] and West Virginia.[36] Such laws have had but little enforcement.

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[10] Ann. Code §§ 12-1522, 13-101.

[11] Rev. Stat. § 51-9-13.

[12] Rev. Stat. §§ 42-102, 43-418.

[13] Rev. Stat. §§ 2:150.2, 2A:124-1, 37-1-9.

[14] Gen. Laws § 51-12.

[15] Rev. Code § 30-1-2

[16] Code §§ 20-46, 20-47.

[17] Rev. Code § 2604.030.

[18] Code § 4701.

[19] Included are Alabama, Connecticut, Maine, Michigan, Minnesota, New York, North Dakota, Ohio, Oregon, New Hampshire, Indiana, Kansas, New Jersey, and Pennsylvania.

Laws for the aid or protection of epileptics are of less extent than such laws in respect to mental defectives. Special guardianship laws are felt not to be needed for epileptics unless of unsound mind. In Florida,[37] Minnesota,[38] New Jersey,[39] and Virginia,[40] epileptics may be under the guardianship of the state department of public welfare. Epileptics in need of economic aid, like all others, may be looked after by local welfare departments. In a few states there is reference to them as possible public charges, as in Iowa,[41] Minnesota,[42] and New York.[43] In Texas epileptics are not to be barred from educational institutions.[44] In California they may be sent to a state home.[45] In Minnesota surgical operations may be performed upon them when necessary.[46]

A small number of states have seen fit to enact laws for the physical protection of epileptics, particularly from acts of violence or abuse, though such matters could usually be covered under some provision of the general penal law, as that for assault, which could be here held as of aggravated character. The special laws for epileptics are of several kinds. In a few states forbidden is cruelty or mistreatment to them, along with other classes: California,[47] Massachusetts,[48] and Oklahoma.[49] Certain states have felt called upon to enact laws forbidding the enticing away or abduction of epileptic persons, along with others, from institutions in which they have been placed, or helping them to escape therefrom, though such matters might be expected to be cared for by other legal provisions or regulations. Included here are Kansas,[50] Michigan,[51] Minnesota,[52] New York,[53] and Virginia.[54] In states like Minnesota[55] and Virginia[56] there may be no illegal detention or confinement. There have been other laws in the way of protection or aid. Though in most states liquor or drugs or firearms may not be sold or dispensed to persons with mental trouble, epileptics are especially mentioned in the laws of Arkansas,[57] Iowa,[58] and West Virginia.[59] In Wisconsin epileptics may not be altogether subject to workingmen's compensation laws for injuries incurred in certain particulars.[60] In Missouri they are under the jurisdiction of the juvenile court.[61] In Minnesota contributions are expressly allowed for the benefit of epileptics.[62] There are certain institutions to which by law epileptics may not be sent, or with the inmates of which they may not be classified. A notable one is the institution for the mentally ill (insane), an institution in which many have had to be confined, even though the institution may be declared to be only for the mentally ill. There may be other references to this class. One such state is California.[63] In South Carolina epileptics may not be sent to the state industrial school.[64]

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[20] Ann Code §§ 36-501, 36-540.
[21] Ann. Code §§ 16-5701, 16-5705.
[22] Code §§ 66-801, 66-812.
[23] Ann. Stat. §§ 22-1601, 22-1622.
[24] Code §§ 145.1, 145.22.
[25] Gen. Stat. §§ 76-149, 76-155.
[26] Code §§ 6957, 6964.
[27] Rev. Code §§ 38-606, 38-608.
[28] Rev. Laws § 174.1.
[29] Gen. Stat. §§ 35-36, 51-12.
[30] Rev. Code §§ 23-0801, 23-0815. By implication.
[31] Stat. §§ 43A, 41-346.
[32] Rev. Stat. §§ 436-030, 436-150. By implication.
[33] Code § 32-671.
[34] Ann. Code §§ 64-10-1, 64-10-14.
[35] Code §§ 37-231, 37-246.
[36] Code §§ 1394, 1400.
[37] Stat. § 393.04.
[38] Stat. §§ 256.06, 525.611.
[39] Rev. Stat. § 26:5-11.
[40] Code § 63-49.
[41] Code § 221.507.
[42] Stat. §§ 30.251, 261.07.
[43] Cons. Laws § 232, a-1; Soc. Wel., §§ 199, 393(4).
[44] Civ. Stat. § 3232b.
[45] Code, Wel. and Inst. § 5251.
[46] Stat. § 246.10.

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[47] Code, Wel. and Inst. § 7506; Pen., §§ 361, 26, 54.

[48] Ann. Laws § 123:111.

[49] Stat. § 43A-34.

[50] Stat. § 21-2005.

[51] Stat. § 28.384.

[52] Stat. § 252.05.

[53] Cons. Laws, Pen. § 1250a.

[54] Code § 37-228.

[55] Stat. § 617.74.

[56] Code § 37.172.

[57] Stat. § 59-316.

[58] Code § 745-15.

[59] Code § 2606.

[60] Stat. § 102.08.

[61] Rev. Stat. § 211.20.

[62] Stat. § 246.41.

In some states there are laws providing for the removal of epileptics from one institution to another, as seems desirable. It may also be set forth that to institutions of custodial character in general, embracing as well those for epileptics, are applicable writs of habeas corpus just as they are to other persons who are illegally or wrongfully held, something long an established principle in American law. Epileptics are expressly mentioned in the laws of New York,[65] Oklahoma,[66] Pennsylvania,[67] and Virginia.[68] (In provisions relating to certain institutions mention may be made of habeas corpus.)

The law may also take cognizance of wrongful or illegal commitment to or detention in an institution, epileptics being mentioned in this connection in Kentucky,[69] Massachusetts,[70] Michigan,[71] Minnesota,[72] Oklahoma,[73] and Virginia.[74]

Epileptics may not be placed in certain kinds of correctional institutions, or special provisions must be made for them here, as in Indiana,[75] Missouri,[76] New Jersey,[77] and South Carolina.[78]

It may be added that epilepsy in itself is in general no barrier to civil service employment on the national, state, or local level, as in California,[79] and Kentucky.[80] In some states epileptics may well be included among those found to be rehabilitated. It is no barrier to Federal Civil Service.

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[63] Code, Wel. and Inst. §§ 5802, 6733.

[64] Code § 55-57.

[65] Cons. Laws, Ment. Hyg. §§ 204, 236, 446; Cor. § 146.

[66] Stat. § 43A-35.

[67] Stat. § 50-1482.

[68] Code § 37-122.

[69] Rev. Stat. § 435.310.

[70] Ann. Laws § 123:49.

[71] Stat. § 14.808.

[72] Stat. § 525.772.

[73] Stat. § 43A-40.

[74] Code § 37-225.

[75] Ann. Stat. § 22-3101.

[76] Rev. Stat. § 219.170.

[77] Rev. Stat. § 30:4-82.

[78] Code § 55-411.1.

[79] Code, Wel. and Inst. §§ 5102, 6733.

[80] Rev. Stat. § 203-200.

Perhaps the most important provision of the law for protection of epileptics has to do with rape or carnal knowledge, especially that involving force. Though such deeds would be within the general provisions of the criminal law, at least by implication in practically all the states—in all events to persons physically or mentally incapable of resistance—several of the states have taken occasion to mention epileptics by name, usually along with mental defectives or the insane, though not nearly as frequently as in the case with these two classes. Such states are: Indiana,[81] Iowa,[82] Michigan,[83] Tennessee,[84] Virginia,[85] and West Virginia.[86] There is little mention in the laws as to the responsibility for crime by epileptics unless mentally unsound.

The chief form of discriminatory action in the law with respect to epileptics has to do with their driving automobiles. In practically all the states there is more or less examination with respect to the physical and mental fitness of persons seeking to do this. It would hardly be expected that epileptics for the most part could secure licenses for the purpose without the express permission of the statute or local ordinance. In a few cases permission is granted under certain circumstances, especially if the condition has been under control for some time, or if the physician has given approval. In a few cases physicians are to report cases to motor vehicle authorities. In certain states there has been express mention of epileptics: Alabama,[87] California,[88] Delaware,[89] Illinois,[90] Indiana,[91] Kansas,[92] Kentucky,[93] Michigan,[94] Minnesota,[95] Montana,[96]

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[81] Ann. Stat. § 10-4201.

[82] Code § 698.31.

[83] Comp. Laws § 28.573.

[84] Code § 33.228.

[85] Code §§ 48-54, 48-55.

[86] Code § 658.

[87] Code § 36-66.

[88] Code Veh. §§ 265, 269.

[89] Ann. Code §§ 21-2706, 21-2762.

[90] Rev. Stat. § 95½-73.14.

[91] Ann. Stat. § 47-2704(d,e,f).

[92] Gen. Stat. § 8-237-255a.

[93] Rev. Stat. § 186.440.

[94] Stat. § 9.2003.

[95] Stat. §§ 171.04, 217.04.

[96] Stat. §§ 68-306, 69-127.

New Mexico,[97] North Carolina,[98] Ohio,[99] Oklahoma,[100] Pennsylvania,[101] Virginia,[102] Washington,[103] West Virginia,[104] and Wisconsin.[105]

In certain states, as Indiana, epileptics are forbidden to fly aircraft[106] —a provision likely to be enacted in a number of states. Under United States laws they are forbidden both to drive automobiles, to fly aircraft,[107] or to be employed on passenger ocean-going vessels. In Massachusetts epileptic barbers may not be licensed.[108]

What may be looked upon as additional discrimination with respect to epileptics, whether sometimes to be regarded as reasonable or necessary, is to be found in the United States immigration laws where "aliens affected with psychopathic personality, epilepsy, or mental defectiveness," are debarred from entrance into this country.[109] Epileptics may be deported if not legally admissible within the borders of a state, as in Indiana[110] and Washington.[111] In several states agreements for the adoption of children may be rescinded or abrogated when such are discovered to be epileptic, as in Alabama,[112] Arkansas,[113] Iowa,[114] Minnesota,[115] and Missouri.[116] The state of Michigan goes so far as to apply finger printing to epileptics along with other "defectives and criminals" in institutions.[117]

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[97] Gen. Stat. § 64-128-40.
[98] Gen. Stat. § 90-9d.
[99] Rev. Code § 4507.08.
[100] Stat. § 47-276.
[101] Ann. Stat. § 75-164(a).
[102] Code § 46.1-360.
[103] Rev. Code § 46-20-030.
[104] Code § 1721(23).
[105] Stat. §§ 343.06, 348.09.
[106] Ann. Stat. § 14-109.
[107] Federal Code, viii, §§ 178, 1285.
[108] Ann. Laws § 112-87L.
[109] Federal Code, viii, §§ 1182, 1322.
[110] Ann. Stat. §§ 22-1501, 22-1545.
[111] Code § 7225.040.
[112] Code § 50-110.
[113] Code § 27-4.
[114] Code § 600.7.
[115] Stat. § 259.30.
[116] Stat. § 453.130.
[117] Comp. Laws § 28.1611.

Chapter XVI

JUDICIAL DECISIONS RELATING TO EPILEPTICS

Judicial decisions have been rendered as to several matters in relation to epileptics—on the one hand, as marriage, sterilization, guardianship, criminal responsibility, capacity for making wills, and capacity as witnesses in court proceedings, and, on the other hand, in relation to injuries causing or aggravating an epileptic condition or injuries occasioned by the actions of epileptic persons. A large portion of the decisions have to do with the matter of marriage, with a considerable number also concerned with the matter of wills by epileptic persons; a still larger number have had relation to the matter of injuries. In the decisions generally in the former category epileptics are held to be quite *sui juris*, or responsible or accountable for their deeds, in the eyes of the law, provided that at the time of the occurrence in question or of the transactions involved they were free from seizures, or were at the time possessed of what are termed "lucid intervals." Decisions in the second category are within the general principles of injuries to the person, or so-called actions in tort.

In the matter of marriages decisions relate almost entirely to the question whether the existence of an epileptic condition may be a ground for divorce or for an annulment of marriage. Here decisions, as perhaps was to be expected, vary much, depending on whether or not there was practiced fraud or dissimulation in the concealment or denial of such condition before the contraction of the marriage. The matter may also be affected in a certain degree by attitudes toward dissolution of the marriage tie in different parts of the country. It would seem that, as time has gone on, with the general increase of divorce in the United States, there might be greater inclination, at least in some areas, to permit divorce or annulment in the case of epilepsy, especially in the case of fraudulent concealment.

On the whole up to the present there may be said to be on the part of the courts more often than not an unwillingness to declare a marriage void simply because of the existence of epilepsy in one of the partners. There appears a disposition to view this condition, provided that no direct or deliberate fraud has been perpetrated, as insufficient ground for the breaking up of a marriage. In the words of a court in New York in 1917, *McGill v. McGill* (179 App. D. 343, 166 N.Y. Supp. 397; affirmed, 266 N.Y. 673, 123 N.E. 877), where it appeared that the condition had been known beforehand, and the parties had lived together for a time, in holding that epilepsy was in itself no ground for the annulment of a marriage: "So far as we know, the courts of this state have never recognized that disease as a cause for nullifying a marriage contract." There is like reasoning in the case of *Elser v. Elser* in this state in 1916 (App. Div. 1916 N.Y. Supp. 724).[1] In *Lepides v. Lepides* in the same state in 1930 (254 N.Y. 73, 171 N.E. 911) divorce was refused, it being the view of the court that such should be had only when there was deliberate concealment of the condition of epilepsy. Similarly in *Richardson v. Richardson* in Massachusetts in 1923 (246 Mass. 353, 140 N.E. 73, 31 A.L.R. 146) it was declared that "fraud must go to essentials" if annulment of marriage was to be had. In *Behsman v. Behsman* in Minnesota in 1919 (144 Minn. 95, 174 N.W. 611, 7 A.L.R. 501), where an annulment was not allowed, there being no evidence of fraud, the court declared that the state did not recognize the existence of epilepsy as a ground for such action. In *Gordon v. Gordon* in Michigan in 1928 (244 Mich. 42, 221 N.W. 170) where a husband had been told by his physician that he had recovered from a condition of epilepsy, though he later had seizures, it was held that in telling this to his wife, there was no fraud practiced such as to justify a divorce. Such was the reasoning also in *Rossander v. Rossander* in Kansas in 1954 (177 Kans. 445, 276 Pac. 338). In *Lyon v. Lyon* in Illinois in 1907 (230 Ill. 366, 82 N.E. 850, 13 L.R.A. 946, 12 Ann. Cas. 25; affirming 132 Ill. App. 45), where a person suffering from epilepsy wrongfully stated that she had been entirely cured, and that she had had no attack for some years, it was said by the court that the party seeking the annulment should have exercised greater care at the outset if annulment was later to be contemplated. In the early case of *Bolinbaugh v. Bolinbaugh* in Pennsylvania in 1854 (46 Pa. Co. Ct. 407), where a couple had lived together for some time, there having been no evidence of the condition at the outset, no divorce was permitted on the claim that one of the parties was afflicted with epilepsy. In *In re Jansa's Estate* in Wisconsin in 1919 (169 Wis. 220, 171 N.W. 947), where heirs of a deceased person sought to obtain an estate on the ground that a previous marriage was void because of the epileptic condition of one of the parties, the court held that, the marriage having been entered into in good faith, was voidable only, and that here it should be upheld. In *Vadepo v. Vadepo* in Iowa in 1949 (240 Iowa 897, 37 N.W.2d 916) a threat to put one's spouse in an epileptic colony was held not to be a ground for divorce. In *Hively v. Gollnick* in Minnesota in 1913 (123 Minn. 498, 144 N.W. 213, 49 L.R.A. 757, Ann. Cas. 1915A 295), where in a breach of promise to marry suit, it was claimed that the defendant had refused to go on with the marriage on the ground that his fiancée was possibly an epileptic, this condition having been concealed, it was held that no cause for action existed.

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[1] On this case see *New York Medical Journal*, civ, 1960, p. 557.

There are cases, on the other hand, where the courts have permitted the dissolution of marriage because of epilepsy in one of the parties. Such was the view in *Vendetto v. Vendetto* in Connecticut in 1932 (115 Conn. 343, 161 Atl. 392). In *Busch v. Gruber* in New Jersey in 1925 (98 N.J. Eq. 1, 131 Atl. 101) a marriage of an epileptic person was annulled on the ground of fraud, the party with this condition having pretended that he was without it. In *Lee v. Lee* in New York in 1943 (180 Misc. 1002, App. D., 43 N.W. Supp. 2d 652), a marriage was annulled because of a previous concealment of an epileptic condition, continued support being no longer required. In *Kitzman v. Warner* in Wisconsin in 1918 (167 Wis. 308, 166 N.W. 786) it was declared that a law, even that of another state, forbidding the marriage of an epileptic person, along with idiots and the insane, was not against public policy. It was assumed that epileptics were to be included with persons suffering serious mental disability. If, furthermore, it was affirmed, there had been original concealment of this condition, the marriage was null and void. In *In re Cannon's Estate* in the same state in 1936 (221 Wis. 322, 266 N.W. 918), where marriage of epileptic persons was forbidden by law, the marriage of such persons on the death of one was not regarded as legal.[2] In *Ship v. 7th Judicial District* in Utah in 1932 (81 Utah 236, 17 Pac. 2d 261) a widow subject to seizures was denied support from her late husband's estate, though her condition was known to him at the time of marriage, as by the law of the state such marriage, though of good faith, and having lasted for some time, was void. In *Carlat v. Carlat* in the state of Kansas in 1950 (168 Kans. 582, 215 Pac. 2d 200) divorce was allowed to a wife whose epileptic condition had been known to her husband, when he was charged with statutory grounds for divorce.[3]

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[2] Marriage of an inmate of an institution is void. Opinions of Attorney General of Michigan, 1941.

In connection with judicial opinions regarding marriages of epileptic persons the question has come up as to the constitutionality of statutes prohibiting such marriages, it being the intention of the law-makers that such condition should be a barrier to marriage, and that if a marriage took place notwithstanding, this should be a ground for its dissolution. (At common law generally marriage of a person suffering with a serious mental informity was void.) In the case of *Gould v. Gould* in Connecticut in 1905 (78 Conn. 242, 61 Atl. 604, 2 L.R.A. 531) it was claimed that such a law was in conflict with the provision of the Constitution as to rights in respect to the liberty of citizens and as to one's right to the pursuit of happiness, and that the marriage of an epileptic person was not in itself something to be made void. This view the court did not take. It pointed out that the presence of epilepsy tended to weaken one's mental powers, and that, epilepsy being of more or less hereditary character, the statute was to prevent the propagation of persons in that condition. It also set forth that if the fact of epilepsy in one party had been concealed from the other party, there was fraud perpetrated, in which event the dissolution of the marriage was called for—a contingency to be expected when one of the parties was deprived of understanding.

As we have seen, certain states have had laws with respect to the sterilization of epileptics, in order, it was believed, to prevent the possibility of like offspring. Very few cases where this matter has been involved have come before the courts, and here the laws have been declared unconstitutional. In the two cases, *Smith v. Board of Examiners* in New Jersey in 1913 (85 N.J.L. 46, 88 Atl. 963) and *Haynes v. Lapeer* in Michigan in 1918 (201 Mich. 138, 166 N.W. 938) the laws were said to involve class legislation and were in violation of due process of law. In a third case, *Osborn v. Thompson* in New York in 1918 (103 Misc. 23, 169 N.Y. Supp. 638; appealed, 171 N.Y. Supp. 1094) the laws were regarded as not involving the proper exercise of the police power of the state, besides being without the equal application of the law. It should be added that in all these cases there were concerned persons mentally defective as well as epileptic.

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[3] On marriage of epileptics, see C. F. Vermier, American Family Laws, 1931, p. 199; 19 *Harvard Law Review*, 208 (1906); 2 *University of Southern California Law Review*, Jan. 1955; 4 *Michigan Law Review*, 157 (1906); 50 *Northwestern Law Review*, 42 (1955); 7 A.L.R., p. 593 (1920).

Though the contract of marriage is of quite different order from contracts in general, there may be said to be principles applying to both that are not wholly apart. In contracts in general we find the existence of epilepsy, aside from other considerations, to have little to do with the impairment of contracts entered into by persons in that condition. In the case of *Carpenter v. Carpenter* in Kentucky in 1871 (71 Ky. 283), where there was no evidence of mental unsoundness, and there was no presumption of continued convulsions, those taking place being only temporary, the contract of an epileptic person, here in the form of a deed to real property, was duly sustained. Similarly in the case of *Furlong v. Tilley* in Utah in 1918 (51 Utah 617, 172 Pac. 676) a deed was held to be valid if executed by an epileptic when he was free from attacks. In *Sutcliffe v. Heatley* in Massachusetts in 1916 (232 Mass. 231, 122 N.E. 317) a contract of an epileptic person attended with other disorders was affirmed to be voidable. At the same time in *Beattie v. Bower* in Michigan in 1939 (290 Mich. 517, 187 N.W. 900) a person in an epileptic state and with other troubles was held not to be able to make a contract. (See also *Hayes v. Cander* (71 Conn. 131, 15 Atl. 826, 1941), *Corbet v. Smith* (7 Iowa 60, 77 Am. Dec. 431, 1858); *Lawton v. Sun Mutual Insurance Co.*, (56 Mass. 500, 1848)).

The contract embraced in an insurance policy has received consideration in being called into question when the insured has, in making out the policy, declared himself free from epilepsy, but later found to be with it. The matter here largely depends upon whether in the eyes of the jury the representations are to be regarded as material ones, going to the heart of the contract of insurance with the insurance company. Such was the issue in the case of *Southern States Life Insurance Company v. Morris* in Georgia in 1920 (24 Ga. App. 746, 102 S.E. 179). In *Laury v. Northwestern Mutual Life Insurance Company* in Michigan in 1930 (180 Mich. 205, 230 N.W. 648) the question was whether there had been deliberate false representations. In the case of *Westphal v. Metropolitan Insurance Company* in California in 1915 (27 Cal. App. 734, 151 Pac. 119), where in a policy of insurance the insured claimed that he was not suffering from epilepsy, when in fact he was, this was regarded as a material misrepresentation and a clear fraud, decision was rendered in favor of the insurance company.

Likewise in keeping with the principles that have just been enunciated, the testamentary capacity of epileptics is called into question only when there is doubt as to their mental power. Even though one is subject to attacks, or even though there has been one just before or just after the making of a will, this alone is not sufficient to invalidate it. If the will is not made during an actual attack, and general mentality seems to be sound, the courts feel that there is little reason to declare a will of no effect. It is sometimes affirmed that insanity is not to be presumed from the existence of epilepsy, nor testamentary capacity to be removed, the mere fact of epilepsy not depriving one thereof. There are a number of cases illustrative of this view. In *Wood v. Carpenter* in Missouri in 1902 (166 Mo. 465, 66 S.W. 172) a will was held valid though the maker had an attack soon after its making. In *Thompson v. Quimby* in New York in 1853 (2 Bradf. 449) a will was sustained, though the court affirmed a belief that epilepsy enfeebled the mind, there being no proof of insanity. In *in Re Rapplee* in New York in 1893 (66 Hun 558, 21 N.Y. Supp. 801; affirmed 141 N.Y. 553, 36 N.E. 343) occasional epileptic attacks did not make a will void. In *In Re Lewis* in Wisconsin in 1881 (51 Wis. 101, 7 N.W. 829) a will was sustained though there were attacks just before and just after its making. In *In Re Johnson's Will* in New York in 1894 (27 N.Y. Supp. 649, 7 Misc. 220) there was a similar decision, an attack having occurred immediately following the execution. In *O'Brien v. Collins* in Massachusetts in 1944 (315 Mass. 429, 53 N.E. 2d 222) a will was upheld when the epileptic testator was found capable of doing his daily tasks. (See also *Turner v. Anderson* (260 Mo. 1, 168 S.W. 143, 1914). There were similar decisions in *Flansburgh's Will* in New York in 1894 (82 Hun 49, 31 N.Y. Supp. 177) and in *Eschmann v. Cawi* in Illinois in 1934 (357 Ill. 379, 192 N.E. 226). In *Derusseau's Will* in Wisconsin in 1921 (175 Wis. 140, 184 N.W. 705, 16 A.L.R. 1412) there was sustaining of a will where the beneficiary had agreed to support through life the testator, though the latter had later to be sent to an institution, the court holding that insanity or want of testamentary power was not to be presumed even from a prolonged existence of epilepsy, and that epilepsy by itself did not deprive one of his testamentary rights, with other infirmities not serious.

On the other hand, where additional infirmities exist besides epilepsy, in particular including an unsound mind, there may be failure to sustain a will, as in *In Re Round's Will* in New York in 1898 (25 Misc. 101, 54 N.Y. Supp. 710) and in *Liddle v. Salter* in Iowa in 1917 (180 Iowa 840, 163 N.W. 447). In the case of *Hartley v. Ford* in Washington in 1905 (38 Wash. 221, 80 Pac. 433), where attacks were frequent, with one occurring just before the execution of a will, it was held not to be good.

In the matter of the giving of testimony in court proceedings it has been held that such testimony is good when by a person subject to epileptic attacks, even though suffering from other handicaps, as in *People v. Enright* in Illinois in 1942 (256 Ill. 221, 99 N.E. 936, Ann. Cas. 1913E 318). In *State v. Smythe* in Washington in 1928 (148 Wash. 65, 268 Pac. 133) an epileptic witness was allowed, his powers of memory being considered normal.[4]

Guardianship for epileptic persons is seldom found to be called for in American jurisprudence, such persons being regarded in general as quite competent in their legal relations, and not *non compotes mentis;* and cases dealing with this matter are few. In one, *Morse v. Caldwell* in Georgia in 1937 (55 Ga. App. 804, 191 S.E. 479), where a guardian had been appointed for an adult war veteran in an epileptic condition, he was allowed to exercise his full rights in his own name and could act *sui juris.*

There are few decisions having to do with possible responsibilities of epileptic parents in relation to their children. In one case, *Hardman v. Hardman* in Kentucky in 1948 (308 Ky. 284, 219 S.W.2d 230) a mother alleged to be epileptic and with other disabilities was held to be unfit to care for her child. In the case of *Fincham v. Lavin* in Florida in 1963 (155 So.2d 883) a divorced mother of a mentally defective and epileptic daughter could compel the father to contribute to her support.

In the case of *State v. Kelsie* in Vermont in 1919 (73 Vt. 450, 108 Atl. 391) the plea of irresponsibility proved of little avail, where there was a charge of murder against one both epileptic and mentally defective; here the accused was held to be only of weak mind, the court declaring that the law knew no distinction between insanity and imbecility in a case of this nature, and asking if the accused had the mental capacity to understand the character, consequences, and quality of his act, and could resist the impulse to do it—the coexistence of epilepsy not affecting the matter.

There have been a number of judicial decisions with respect to criminal acts committed by persons suffering or alleged to be suffering from epilepsy. Here it is generally held that unless found definitely insane or of clear mental unsoundness at the time of the act in question, such a person is fully chargeable with his wrongful deed. If his mind is not seriously affected, or if his mentality is not decidedly impaired, he must stand the consequences of what he has done, and is to receive the due punishment set by the law. Most of the criminal cases of this kind have to do with homicide or attempted homicide. In *State v. Clark* in Washington in 1930 (156 Wash. 47, 286 Pac. 69), where an epileptic person was found to be mentally sound, he was duly pronounced guilty. In *Zimmerman v. State* in Texas in 1919 (85 Tex. Crim. 630, 215 S.W. 101) one's being subject to epileptic attacks was no defense. A like view was taken in *State v. Pennington* in Missouri in 1898 (146 Mo. 27, 47 S.W. 799), where epileptic attacks had occurred after the homicide. It was also the view when there had been a previous attack, though not recent, as in *Coffey v. State* in the state of Texas in 1910 (60 Tex. Crim. 73, 131 S.W. 216). In *Maxey v. State* in this state also in 1912 (66 Tex. Crim. 234, 145 S.W. 952) the accused was found guilty, even though he claimed to be subject to epileptic seizures, having acted rationally just before his act, and not being under seizure at the time. In *Commonwealth v. Snyder* in Pennsylvania in 1909 (224 Pa. 526, 73 Atl. 910) an epileptic person was regarded as not able to escape the consequences of his act, being held to be no less responsible than normal persons, unless he was proved otherwise to be insane, there being no presumption of insanity. In *Oborn v. State* in Wisconsin in 1903 (143 Wis. 249, 126 N.W. 737, 31 L.R.A. 966), where there was no proof of insanity or of the loss of mental faculties, the plea of epilepsy was not taken as a good defense, epilepsy being held as not necessarily to involve insanity—the two things being regarded as distinct, though evidence of epilepsy might go to an extent to establish insanity. In *Walsh v. People* in New York in 1882 (188 N.Y. 458) a murder conviction was upheld despite claims of the existence of epileptic insanity in the family of the accused. In a case involving an intent to kill, *Fogarty v. State* in Georgia in 1880 (80 Ga. 450, 5 S.E. 782) a verdict of guilty was upheld, despite the fact that the convicted person was suffering from epilepsy. A like decision was rendered in *State v. Kelsie* (93 Vt. 450, 108 Atl. 291, 1919) and *People v. Tucker* (11 Cal. 2d 271, 78 Pac. 2d 1136, 1938). In *Quatterbaum v. State* in Georgia in 1904 (119 Ga. 433, 46 So. 677), a murder case, a claim of insanity was not allowed, it being held that there was at least a lucid interval with knowledge as to right or wrong. If one subject to seizures is of sound mind except at the time of the act in question, this is no defense. Cases illustrative of the view that epilepsy is not equivalent to insanity are *People v. Gamburta* (in New York in 1910 (197 N.Y. 181, 90 N.E. 809) and *People v. Furlong* in the same state in 1907, (187 N.Y. 198, 79 N.E. 978). In the case of *People v. Syjut* in Michigan in 1945 (310 Mich. 400, 17 N.W.2d 280) it was stated that epilepsy was a frequent concomitant of low grade feeblemindedness, especially in old people, particularly if they were untreated. In a case of simple assault, *People v. Wydra* in New York in 1935 (241 App. D. 185, 282 N.Y. Supp. 220) an accused person suffering with epilepsy was held to have had ample time to concoct his deed, and was not really a lazy person, his epileptic condition having prevented him from working.

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[4] Laws as to suffrage have little relation to epileptics, they being presumed to be quite capable in this respect, if mentally sound. In Iowa an epileptic person was held to have the right to vote at his place of residence. Opinions of Attorney General, 1928, p. 426.

In *Commonwealth v. Buccieri* in Pennsylvania in 1893 (173 Pa. 535, 26 Atl. 228), alleged epilepsy was not accepted as a defense. In *State v. Anselmo* in Utah in 1915 (46 Utah 137, 148 Pac. 1071), where an officer was killed in making an arrest, a condition of intoxication, and not epilepsy, was held to blame. In *Stovens v. State* in Oklahoma in 1955 (94 Okla. 216, 232 Pac. 2d 949), it was for the jury to decide whether a killing was due to a "state of epileptic fugue" or to a state of intoxication. In a California case in 1943 *People v. Freeman* (61 Cal. App. 210, 143 Pac. 2d 435) where death was caused by an epileptic driver running into the car of another after drinking, it was for the jury to decide whether his mind was clouded at the time.

On the other hand, when there is definite mental aberration, or when the wrongful deed is directly connected with the epileptic condition, the courts are found willing to take these factors into consideration. In *State v. Wright* in Iowa in 1900 (112 Iowa 436, 84 N.W. 541) the accused charged with homicide was held not responsible when the act was affected by his condition, occurring in fact during a seizure, there being at the same time other matters involved. In *People v. Magnus* in New York in 1915 (92 Misc. 80, 155 N.Y. Supp. 1013) an epileptic person was held not responsible for an otherwise criminal act when at the time he might have been deprived of consciousness in consequence of his condition, and was not *compos mentis.* In *Batchan v. State* in Texas in 1928 (104 Tex. Crim. 398, 284 S.W. 549) evidence was permitted that the killer was of highly nervous disposition and was subject to epileptic attacks. In *Reid v. State* in Texas in 1939 (138 Tex. 314, 133 S.W.2d 979) an epileptic person on trial for attempt to commit homicide had his trial deferred because of attacks during the trial. In *State v. Maioni* in New Jersey in 1909 (78 N.J.L. 339, 74 Atl. 726, 20 Ann. Cas. 204) there was held to be improper a question whether a physician in his testimony believed that one in a highly excited state, including an epileptic condition, might be tempted to kill.

There are certain other decisions dealing with epileptics charged with criminal offenses. A case where rape was charged against an inmate of a veterans hospital, who claimed the defense of irresponsibility on account of epilepsy, is that of *Hall v. State* (248 Ala. 33, 26 So.2d 566, 1946).[5]

In *People v. Eckert,* a New York case in 1954 (2 N.Y. Supp. 126, 138 N.E.2d 794), an epileptic driver, with knowledge that he was subject to seizures, who caused a fatal accident, was held "wilfully negligent."

From the matter of criminal acts punishable on the part of the state, we pass to acts between individuals or private parties, involving possible redress for injuries suffered or inflicted, or actions on the order of torts. Practically always under common law it has been possible for an action at law to be brought to recover compensatory damages against one for acts of commission or omission by deliberate misconduct or culpable laches that have caused injury. This proceeds from the all-embracing legal principle that an action in tort, or *ex delictu,* lies against the party inflicting an injury to the person, when the injured party is blameless, if the party responsible for the injury has acted maliciously, or in the absence of malice or intentional wrongdoing with reckless disregard of the consequences of his deed, or without the exercise of the care and caution which the situation has demanded, and which is to be expected of an ordinarily and reasonably prudent man. All come under the general law of negligence, suits for the occasioning or the worsening of an epileptic condition being simply illustrations of the various aspects of the matter. Action is possible in such case against an individual or against an organization, especially what is known as a corporation, including actions by employees thereof. The party seeking redress must have shown himself in the exercise of all the care and prudence that the circumstances may have required—or free from what is called contributory negligence.

Before the enactment of the workingmen's compensation laws of today the possible recovery of damages by employees in actions against employers lay under the old law of master and servant, the negligence of the latter with respect to the former being one of its most important departments. Most often in such cases the employer would be a corporation. Under long-established principles the employer has been able to set up one of three defenses in actions against him by employees—what have been called assumption of risk by the employee, contributory negligence on his part, and negligence on the part of a fellow employee for which the employer was not to be held accountable. Though not the insurer of the safety of the employee, the employer was to exercise reasonable care and diligence in providing safe places, equipment, and materials for work of the employee, in respect to which he was reasonably expected to have knowledge. The greater the hazard of the labor involved, the greater became his responsibility. His superintendents under him had like responsibility, being regarded for the most part as his representatives—he being answerable for their actions if these actions were in keeping with their authority and within the general purposes of his business. The employer was not responsible for defects in surroundings or tools not observable by reasonable inspection. In the matter of assumption of risk, where the employee used tools which were obviously defective or improper, with better ones at hand, or engaged in operations which were manifestly unsafe, or operated without complaint in unsafe quarters, he was regarded as having assumed the risk of possible accident. In the matter of contributory negligence, where the employee failed to exercise reasonable care in his operations, or was reckless or careless or wanting in prudence and circumspection, such was regarded as contributing to his accident, leaving the employer free from blame. In the matter of injury by a fellow employee, where the blame was upon the shoulders of a fellow workman, the employer was likewise absolved from responsibility.

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[5] On the proper disposal of cases where defective delinquents said to be epileptic are involved, see *Long v. Maryland House of Correction,* (211 Md. 657, 127 Atl. 141, 1956).

With the enactment of workingmen's laws there have been changed attitudes in the matter. The risk is now charged to industry itself. Compensation is at the expense of the employer, who usually contributes to a fund for the purpose. An incidental but important consequence of these laws has been to make employers more careful in the matter of safety provision. As time has gone on, there has been wider and wider coverage of employees under the laws. In the application of the laws the main consideration is whether the accident occurred in the course of employment, or may be said to have arisen out of it, or whether there was direct connection between the accident and the character of the occurrence. Employer insurance may be through private agency, state, or self-insurance agency.

Let us initially look into decisions in civil cases involving epileptics, but not involving the relationship of employer and employee. We may first examine cases where suits have been brought against epileptic persons for injuries caused to other persons more or less in consequence of the alleged epileptic condition. In one case we find the decision adverse to the epileptic person, he being held responsible for the injury occurring. In *Golembe v. Blumberg* in New York in 1941 (267 App. D. 759, 27 N.Y. Supp. 2d 692), where a father permitted his epileptic son to drive a car which caused damage to another person, the father was held responsible. In some cases charges against an epileptic person have not been sustained, though in one case which was against the employer of an epileptic person, the employer was relieved of liability, the blame being placed upon the epileptic himself. In the case of *Gleason v. Western Casualty and Surety Company* in Wisconsin in 1949 (254 Wis. 134, 35 N. W.2d 301), where a person was killed by a truck driven by one who was subject to epileptic attacks, the employer, not knowing of the disability, was exonerated of blame. In several cases an epileptic person has been held not responsible for accidents that have occurred. In *Morris v. Industrial Accident Commission* in California in 1940 (40 Cal. 2d 911, 104 Pac. 2d 408) no recovery was allowed to an attendant in a hospital who claimed to have suffered cancer in consequence of contact with an epileptic patient. In *Holmes v. McNeil* in Missouri in 1948 (356 Mo. 204, 204 S.W.2d 343), where an accident followed from an epileptic person becoming unconscious, he was held to be not necessarily chargeable with negligence. In a Massachusetts case in 1958, *Corin v. Cately* (338 Mass. 2d 110, 153 N.E.2d 752) an epileptic driver involved in an automobile collision was held not to be responsible for the accident occurring. (See also *Weldon Tool Co. v. Kelley* in Ohio in 1948 (Ohio App. 76 N.E.2d 629)).

In other decisions suits were brought by epileptic persons for injuries suffered by them of different kinds. In suits involving possible or alleged aggravation or worsening of an epileptic condition the decisions which we have have mostly been adverse ones. In *Wishome v. Yellow Cab Co.* in Tennessee in 1936 (30 Tenn. App. 229, 97 S.W.2d 452), where a person already suffering from epilepsy received an injury in a taxicab, the accident was held to be primarily attributable to his epileptic condition. In *Kirchsner v. Keller* in Ohio in 1942 (70 Ohio App. 111, 42 N.E.2d 463), where suit was brought against a chiropractor whose advice had been followed with respect to the giving up of beneficial medicines by one in an epileptic condition, with increased suffering in consequence, there was held to be no cause of action. In *Beck v. Alden* in Georgia in 1941

(64 Ga. App. 407, 13 S.E.2d 468) a communication by one citizen to another, stating that a certain person was subject to epileptic attacks, was regarded as not libelous. In *Wolkering v. Weber's Administratrix* in Kentucky in 1934 (253 Ky. 55, 68 S.W.2d 440), a new trial was denied in a case involving a real estate transaction after it had been discovered that the deceased was an epileptic.

In two cases actions had been brought with respect to the killing of epileptic persons, in both of which those charged with responsibility for this result were exonerated. In *Calabria v. State* in New York in 1941 (176 Mis. 625, 29 N.Y. Supp. 2d 477; affirmed, 289 N.Y. 613, 43 N.E.2d 863), where an inmate of a state institution who had escaped was struck by a car and killed, the state was held not to have been negligent or liable for the accident. In *O'Quin v. Baptist Memorial Hospital* in Tennessee in 1948 (180 Tenn. 563, 201 S.W.2d 690), a hospital was held not to be liable when an epileptic patient became violent, and in efforts to restrain him, was killed.

There have been further adverse decisions with respect to actions of epileptics. In *Puszkarewicz v. Prudential Insurance Co.* in Pennsylvania in 1948 (161 Pa. Sup. 500, 55 Atl. 2d 431) an insurance company won a verdict when it was held that death of the insured was due to an epileptic seizure when in a bath tub. In *Boulger v. United States*, in a Federal case in 1932 (60 Fed. 2d 560) a veteran who already had epilepsy before he entered the service could not be indemnified for an attack occurring after his discharge when the insurance was not in force.

In a case in Louisiana in 1962, *D'Antoni v. Sara Mayo Hospital* (144 So. 2d 643), where a hospital patient subject to epileptic seizures was injured in getting out of bed which had no side rails, the insurance company concerned was subjected to a fine of $35,000.

In *Cartey v. United States* a Federal case in 1936 (86 Fed. 139), a claim was denied where the epilepsy complained of occurred after the lapse of an insurance policy, the ability to work having continued. In *Brown v. Standard Life Insurance Company of Indiana* in 1956 (140 Fed. Supp. 577), there was a claim for double indemnity where a person with epilepsy fell into the water while fishing, an occurrence that had not been contemplated.

There have also been suits brought by epileptic persons in regard to what they conceived to be their rights, the decisions here for the most part being adverse to them. In *Commonwealth v. Irwin* in Pennsylvania in 1943 (345 Pa. 504, 29 Atl. 2d 68), where a person suffering from epilepsy demanded a license to drive an automobile, the license was refused. In *Anderson v. Consolidated School District* in Minnesota in 1936 (196 Minn. 256, 264 N.W. 784), where a teacher who had had epileptic attacks in her classroom demanded the retention of her job, this was refused. In *Canciamilla v. Hoff*, a Federal case in 1931 (64 Fed. 2d 875), where an immigrant seeking admission into the United States was claimed to be suffering from epilepsy, it was held that the burden of proof was upon him as to whether the condition had occurred before his arrival at an American port. In another Federal case involving immigrants, *Navigazione Generale Italiana v. Elting* in 1937 (88 Fed. 600) a ship owner was held not to blame for bringing in a person in an epileptic condition when this condition could not have been detected before embarkation in Europe.

There have been, furthermore, cases involving physical assault, one with the epileptic person in the role of the assailant, and the other with him in the role of the assailed. In *Sauers v. Sack* in Georgia in 1925 (34 Ga. App. 748, 131 S.E. 98) a condition of epilepsy was held to be no defense, as an intent could exist here as well as elsewhere. In *Dickinson v. Davis* in Missouri in 1926 (Mo. App. S.W. 815) an epileptic person was held to be entitled to punitive damages for unnecessary roughness in his ejection from a building.

Finally, we have a decision holding that judicial notice is to be taken of the circumstance that persons suffering epilepsy are capable of earning a living—in the Federal case of *Birdwell v. United States Court* in 1933 (4 Fed. Supp. 140).

We now come to decisions involving the relationship of employer and employee with respect to injuries occurring in factories, shops, and other work places, in which an epileptic condition has had a greater or less part. Decisions here are divided, in some compensation being allowed and in others not allowed—much often depending upon whether there has been connection between the accident and the epileptic condition or whether the accident would not have occurred if the person injured had not been an epileptic—and upon the particular circumstances of individual cases—whether the floor where one worked was hard, whether it was level, whether objects were in their proper location, whether there were unusual obstructions, whether surroundings in general were of a safe order—and also whether epileptic seizures were for the most part under control.

Sometimes an impaired employee can waive a right to usual compensation for an injury in which his condition has had part. He may be chargeable only for the second injury. Formerly an injury to or aggravation of the condition of a person with an infirmity like epilepsy was regarded in this case as a second accident, with more or less complete incapacitation in consequence, and meant compensation for total disability. A prior disablement need not be a bar to recovery if the accident occurred in the performance of one's duty, even though it was a predisposing factor. If, however, such results were due to the normal progress of the existing condition, and were not affected by, or a development from, one's employment alone, or if there was involved nothing greater than one's ordinary activities, with no extended ones, while at work, there could be no recovery.

In such a situation on the whole an epileptic person was seriously held back, as the employer was unwilling to take on a person like him. In later years a more liberal attitude has been adopted. In many of the states now the cost to an employer is reduced with respect to a second injury; where the employer is liable for the new accident, he has only to pay in general the difference between compensation for it and compensation for total disability under a "second injury" compensation fund. In some states epileptics, cardiacs, and other such persons especially when the defect is latent, are not covered by this provision. Epilepsy is not always mentioned.

In our examination we shall consider together cases coming under the old employers' liability laws and cases under the more modern workingmen's compensation laws. First let us give attention to cases where recovery has been allowed, following the employment of an epileptic person or where there was a verdict or judgment in favor of the epileptic party bringing suit. In certain cases there has been involved the death of the injured person.

In *Baird v. N.Y. C. & H. R.R. Co.* in New York in 1901 (64 App. D. 14, 71 N.Y. Supp. 734; affirmed 172 N.Y. 637, 65 N.E. 1113) where a railroad knowingly employed a brakeman who was an epileptic with resulting injuries to another, it was held to blame. In *Ryan v. La. Ry.* N *Nav. Co.* in Louisiana in 1919 (146 La. 40, 83 So. 371) a railroad company was held negligent in employing an epileptic person at a railroad crossing during which employment an injury occurred. In *Tucker v. M. & Kans. Telephone Co.* in Missouri in 1908 (132 Mo. App. 418, 112 S.W. 6), where an employee was injured by the action of a fellow employee who was an epileptic, the employer was held to be chargeable, he having employed one who should have been regarded as incompetent for his tasks. In *Texas & P.R. Co. v. Weatherly* in Texas in 1934 (Tex. Civ. App., 73 S.W.2d 957) award was made to an epileptic employee when his condition was weakened by injuries caused by another employee. In *Goss v. Kentucky Refining Company* in Kentucky in 1910 (137 Ky. 398, 125 S. W. 1061) an employee subject to epileptic attacks who was working near a hot glue vat and fell thereinto, having been told by a foreman that he was in no danger, was entitled to compensation.[6]

We may now look into cases where adverse decisions were rendered, or where compensation was denied. In *Crowley v. Appleton* in Massachusetts in 1888 (148 Mass. 98, 18 N.E. 675), where an epileptic employee fell into a mortar vat, no recovery was allowed, the employer not being aware of his condition. In *Tennessee Coal, Iron, and R.R. Co. v. Moody* in Alabama in 1915 (192 Ala. 364, 68 So. 274, L.R.A. 1915E 369), where an employee working in a blast furnace at the orders of a superintendent who knew that he was subject to epileptic attacks, was injured through contact with molten metal or cinders, it was held that he had assumed the risk of his occupation, without charge of negligence on the part of the employer. In *Valeria v. Industrial Commission* in Arizona in 1956 (85 Ariz. 189, 334 Pac. 2d 768) where death appeared to have been precipitated in the fall of a person with epilepsy, compensation was held not within the law on the subject. In *Shingleur v. Baton Rouge Electric Company* in Louisiana in 1931 (18 La. App. 797, 13 So. 209) compensation was not allowed where the epilepsy was regarded as not the result of a fractured skull. In *Fohl v. Metropolitan Life Insurance Co.* in California in 1942 (54 Cal. 368, 129 Pac. 2d 24) no compensation was allowed a truck driver, already suffering from epilepsy, who was able to continue at work after an accident. In *Shoemaker v. Erie R.R. Co.* in New York in 1910 (129 App. D. 467, 113 N.Y. Supp. 1048; affirmed 199 N.Y. 541, 93 N.E. 1131), where a railway employee received injury owing to the epileptic condition of the train engineer, the railroad company was held not to have been negligent in employing this engineer.[7]

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[6] Other decisions in which compensation was allowed are: *Industrial Commission v. Nelson* (127 Ohio St. 41, 186 N.E. 735, 1933—fall from scaffold against hot substance causing death); *Van Gorder v. Packard Motor Co.* (198 Mich. 588, 112 N.W. 107, L.R.A. 1917E 522, 1957—fall); *Potts v. Travelers Insurance Co.* (75 Ohio App. 40, 62 N.E.2d 588, 1944—caught in elevator); *Meyer v. Eberhard,* 195 Mich. 588, 162 N.W. 107, L.R.A. 1917E 522, 1917—fall); *Meyer v. Eberhard Faber Pencil Co.* (274 App. D. 1079, 85 N.Y. Supp. 2d 659, 1949—fall); *U. S. Cas. Co. v. Richardson* (75 Ga. App. 496, 43 S.E.2d 793, 1948—attack perhaps precipitated from excessive exertion); *Standard Oil Co. v. Sullivan* (33 Wyo. 223, 237 Pac. 253, 1925—blow on head); *Chicago Park District v. Ind. Commission* (372 Ill. 428, 24 N.E.2d 338, 1940—blow on head from swinging door); *Miller v. Reid* (75 Ind. App. 13, 129 N.E. 493, 1921—fall into water and drowning); *Reynolds v. Passaic Valley Sewerage Comrs.* (20 N.J. Misc. 74, 24 Atl. 2d 531, 1942—burns to night watchman from falling against stove in very small room); *Biasi v. Lehigh Coal & Nav. Co.* (295 Pa. 80, 144 Atl. 821, 1929—gas poisoning); *Blue Diamond Coal Co. v. Neace* (303 Ky. 519, 198 S.W.2d 223, 1947—gas poisoning); *Esthey v. Avondale Marine Ins. Co.* (La. App. 25 So. 2d 631, 1946—fainting spell after accident leading to epilepsy); *Dry Dock & Ship Bldg. Co. v. Webster* (139 Md. 616, 116 Atl. 842, 1922—accidental death possibly due to epileptic attack and not to stumbling over object); *Barlone v. Minneapolis Moline Power Implement Co.* (214 Minn. 564, 9 N.W.2d 6, 1943—possible epileptic attack at home given benefit of doubt); *Rightmyer v. Borough of Totowa* (16 N.J. Misc. 161, 197 Atl. 620, 1938—epilepsy resulting to injured policeman); *Haustalau v. Castle Mining Co.* (271 Mich. 233, 260 N.W. 158, 1935); *White v. Louisiana Western R. Co.* (18 La. App. 544, 135 So. 255, 1931); *Rialto Mining Co. v. Juhum* (153 Okla. 297, 5 Pac. 2d 1065, 1932); *Marland Refining Co. v. McClung* (162 Okla. 56, 226 Pac. 382, 1924); *Wilkinson v. Detroit Steel & Spring Works* (73 Mich. 405, 41 N.W. 490, 1889—epilepsy aggravated); *Cusick's Case* (260 Mass. 421, 157 N.E. 596, 1927); *Sears Roebuck v. Finney* (167 Tenn. 547, 89 S.W. 1749, 1936); *U.S. Casualty Co. v. Richardson* (75 Ga. App. 496, 43 S.E.2d 793, 1947); *National Automobile & Casualty Insurance Co. v. Ind. Accident Commission* (75 Cal. App. 2d 677, 171 Pac. 2d 594, 1946); *Ervin v. Ind. Commission* (364 Ill. 56, 4 N.E.2d 22, 1936); *Romona Oölithic Store Co. v. Shields* (173 Ind. 68, 88 N.E. 595, 1909); *Hughes v. Harbor Ass'n* (131 App. D. 185, 115 N.Y. Supp. 320, 1909; *Burke v. Borden Cons. Milk Co.* (98 App. D. 219, 90 N.Y. Supp. 527, 1904).

The amount of damages to be recovered for the causation or worsening of a condition of epilepsy in the injured party is more or less set by the general rules as to the measure of damages for injuries to the person, or as is customary with the principles applicable here. Included are both partial and total disability. Several factors are taken into consideration or account: the extent and severity of the injury, its general nature, likely future disability, past earning power, future earning power, age, general physical condition before and after the accident, etc., with also consideration of complications with injuries to other parts. The amount may range under the old employers' liability laws from a few hundred or a few thousand dollars for a minor injury to $20,000 or even more for a major injury or total disability. The maximum has not infrequently been $7500 or $10,000. Under workingmen's compensation laws, with the passing of time more and more generous sums have in general been allowed. They may have more limited range than under the old laws, but are more certain and more steady. Maximum amounts for total disability may vary between $15,000 and $25,000. The amounts are graduated to lesser injuries, perhaps reaching one or two or several thousand dollars.

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[7] In the following cases there was involved burns to the body during an epileptic seizure: *President etc. of Georgetown College v. Stone* (61 App. D.C. 200, 59 Fed. 2d 875, 1932); *Cox v. Kansas City Refining Company* (108 Kans. 320, 195 Pac. 863, 19 A.L.R. 90, 1921); *Pucilowski v. ackward Wolverine Co.* (278 Mich. 240, 270 N.W. 282, 1939); *Hill v. Ancram Paper Mills* (202 App. D. 36, 195 N.Y. Supp. 522, 1922); *Clark v. Renshaw* (106 Pa. Sup. 483, 163 Atl. 45, 1932). In the following cases there were involved falls from a high place: *Brooker v. Industrial Accident Commission* (176 Cal. 275, 168 Pac. 126, L.R.A. 1918F 878, 1917); *Marion Machine Foundry & Supply Co. v. Redd* (115 Okla. 30, 241 Pac. 175, 1926); *Edge v. Duneen Mills* (202 S.C. 189, 24 S.E.2d 268, 1943). Other cases without compensation are: *Andrews v. L & S Amusement Corporation* (253 N.Y. 97, 170 N.E. 506, 1930); *Milholland Sales & Eng. Co. v. Griffiths* (94 Ind. App. 62, 178 N.E. 454, 1930); *Strzyckowski v. American 3-Way Luxfer Prism Co.* (230 App. D. 632, 246 N.Y. Supp. 150, 1931); *St. Louis Southwestern R.R. Co. v. Hagler* (160 Ark. 543, 254 S.W. 1071, 1923); *Vause v. Vause Farm Implement Co.* (233 N.C. 88, 63 S.E.2d 173, 1951).

There have been certain decisions relating to the amount of damages for epileptic injuries, some of which have already been mentioned in our preceding discussion. In *Fort Wayne Transit v. Shomo* in Indiana in 1957 (Ind. 143 N.E.2d 431) damages in the sum of $15,000 were not regarded as excessive where a young child was caused epilepsy when crossing a street and struck by a car (See also *Baldwin v. Robertson* (118 Conn. 431, 172 Atl. 859, 1934). In *Melford v. Gauss & Brown Construction Company* in Illinois in 1958 (17 Ill. App. 497, 151 N.E.2d 128) damages for $20,000 were not regarded as too great for a fall of a child into a sidewalk excavation, which resulted in its epilepsy. In *Winchester v. Buff* in New York in 1956 (2 App. D. 2d 929, 156 N.Y. Supp. 2d 253) $4000 was regarded as sufficient damages for an accident allegedly resulting in epilepsy, but not altogether proved. In the case of *Fye v. Chapin* in Michigan in 1897 (121 Mich. 675, 80 N.W. 797; see also 79 U.S. 127, 21 Sup. Ct. 71, 45 L. Ed. 147) where in a claim that epilepsy was caused to a child from the attack of a dog, damages for $20,000 were not allowed unless it was reduced by one-half, it being held that the resulting epilepsy was not altogether proved. In *O'Hora v. United States* in 1931 (49 Fed. 2d 945) it was held that recovery was possible where no job could be had by one who contracts epilepsy in war service. In *Hochberg v. Travelers Insurance Company* in New York in 1946 (270 App. D. 857, 60 N.Y. Supp. 2d 630) it was for the jury to decide whether there was total disability. In *Wood v. United States* in 1928 (28 Fed. 2d 771) it was held that where an employer refused to hire one after the accident, even though the injured party was all right most of the time, total disability was to be inferred.[8]

NOTE TO CHAPTER XVI—On the law in relation to epileptics, see H. Maudsley, Responsibility and Mental Diseases, 1900, p. 244; G. W. Jacoby, Unsound Mind and Law, 1898, p. 266; S. V. Clovenger, Medical Jurisprudence and Insanity, 1898, p. 1064; E. B. Hoag and C. H. Williams, Crime, Abnormal Mind, and Law, 1923, p. 112; M. Clymer, Legislative Influence of Epilepsy upon Criminal Responsibility, 1874; D. J. A. Kerr, Forensic Medicine, 1954, p. 206; W. C. Sullivan, Crime and Insanity, 1924, p. 131; A. Highmore, Treatise on Law of Idiocy and Insane, 1822; M. D. Singer and W. O. Kruhn, Insanity and Law, 1924, p. 137; C. J. Vernier, American Family and Laws, 1939, p. 188; A. M. Hamilton, Manual of Medical Jurisprudence, 1892, p. 221; S. H. Shack, Mental Disease and Criminal Law, 1925, p. 338; W. J. R. Robertson, Medical Jurisprudence and Toxicology, 1925, p. 285;

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I. Ray, Medical Aspects of Insanity, ed. 1871, pp. 34, 477; J. H. Browne, Medical Jurisprudence and Insanity, 1875, p. 446; W. A. J. Meredith, Insanity as Criminal Defense, 1931, p. 90; P. H. Hoch and J. Zubin, Psychology and Law, 1955, p. 62; R. B. H. Gradwohl, Legal Medicine, 1954, p. 887; S. Smith, Taylor's Principles and Practice of Medical Jurisprudence, 1856, p. 585; T. A. Gonzales, Legal Medicine, Pathology, and Toxicology, 1954, p. 301; R. L. Barrows and H. D. Febrig, Epilepsy and Law, 1957; J. Glueck, Mental Disorder and Criminal Law, 1925, p. 332; J. Gleisten, Modern Jurisprudence and Insanity, 1950, p. 470; I. Gordon *et al.*, Medical Jurisprudence, 1953; M. S. Echiverria, On Epilepsy, 1870; E. C. Spitzka, Treatise on Insanity and Its Medical Relations, 1883, ii, p. 66;

K. T. Limdman and D. M. McIntyre, Mentally Disabled and the Law, 1961; S. Smith, Forensic Medicine, 1945, p. 400; R. N. Gray, Attorney's Textbook of Medicine, 1949, p. 1045; A. W. Herzog, Medical Jurisprudence, 1931, p. 446; R. A. Witthaus and T. C. Becker, Medical Jurisprudence, Forensic Medicine, and Toxicology, 1906, iii, p. 293; F. Wharton and A. Stille, Medical Jurisprudence,

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[8] On this subject see also *McAfe v. State* (307 App. D. 799, 45 N.Y. Supp. 338, 1942; 46 A.L.R. 1281 (1927); 102 A.L.R. 1254 (1936).

1905, i, p. 726; D. H. Tuke, Dictionary of Psychological Medicine, 1892, i, 440; W. J. Conklin, Relation of Epilepsy and Insanity and Jurisprudence, (Ohio Medical Society) 1878; H. C. Underhill, Law of Wills, 1900, p. 157; 35 American Jurisprudence, 1941, p. 235 (marriage); R. Taft, Legal Rights of Persons with Epilepsy, 1965;

Transactions of Medical Society of Ohio, 1871, p. 255; Transactions of Mississippi Valley Medical Association, 1903, p. 354; Bulletin of Medico-Legal Society of New York, 1871, p. 444; 1878, p. 161; 188, p. 205;

State Hospital Bulletin, 1887, p. 66; *Journal of Psychological Medicine*, vi, 1872, p. 651; *Alienist and Neurologist*, v, 1881, p. 12; xxvii, 1906, p. 170; *Journal of Criminal Law and Criminology*, xvii, 1926, p. 218; xxxv, 1944, p. 176; and *passim; Medical Times*, xxxvii, 1907, p. 43; lxxxiv, 1956, p. 1359; *Wisconsin Medical Journal*, 1, 1951, p. 945; *Medical News*, lxxxii, 1903, p. 112; *Journal of Mental Diseases*, xlvii, 1901, p. 260;

Medico-Legal Journal, iv, 1886, p. 274; xi, 1893, pp. 1, 210; *Journal of Nervous and Mental Diseases*, xxix, 1902, p. 481; *Journal of Mental Science*, xlvii, 1901, p. 260; lxxii, 1926, p. 533; xciv, 1948, p. 439; *American Journal of Insanity*, (*Psychiatry*) xii, 1856, p. 122; xxiv, 1867, p. 187; xxix, 1873, p. 341; xxx, 1873, p. 1; lxx, 1913, p. 161; cxvi, 1960, p. 911; *Medical Record*, lxii, p. 765; *Journal of Abnormal and Social Psychology*, xvii, 1926, p. 218; xxii, 1927, p. 1; *Clinical Neurology*, ii, 1954, p. 134; *Brain*, ii, 1880, p. 491; *Epilepsia*, iii, 1954, p. 82; *Medical Clinics of North America*, xl, 1958, p. 369; *Journal of American Medical Association*, clii, 1912, p. 680; clviii, 1958, p. 638; *Practitioner*, cxc, 1963, p. 577; *Diseases of Nervous System*, xxxiii, 1952, p. 166; *Journal of Michigan State Medical Society*, lxi, 1962, p. 712; *Ohio State Medical Journal*, lviii, 1963, p. 490; *Harper's Magazine*, Sept., 1960.

Part III

INSTITUTIONAL PROVISION FOR EPILEPTICS

Chapter XVII

FOUNDING AND DEVELOPMENT OF INSTITUTIONS FOR EPILEPTICS

It would be difficult to conceive of a portion of mankind that has existed on this earth under sadder conditions than those we know as epileptics. Far back in human history and to fairly recent times they have been regarded as a strange, aberrant species of the human race. They have excited wonder and evoked disquietude and dread. They have been looked upon with apprehension, aversion, and horror, often with misgivings and alarm, with awe and superstition. Quite often they have been viewed as more or less demented, as insane or otherwise wanting in mind, possibly of rather violent type. They were believed to be possessed of evil spirits. With some their condition was deemed to be an affliction from on High or a special divine visitation, perhaps a manifestation of demoniacal power, perhaps the bedevilment of witches.

For a long time in the history of the human race such persons were avoided and shunned and the occasion for affrightment. General neglect was their portion, though on the occasion of a seizure some attention had to be directed to them. They were at times persecuted, or even actually mistreated. Some, driven from their homes or seeking to escape from their intolerable surroundings, wandered about, perhaps in wild or desolate places, shunned and avoided by their fellow men. There were times when they were thrown into jails or prisons or other places of confinement, largely for the fear which they inspired in those about them who might be concerned with what they believed was their own safety. Seizures could be connected with phases of the moon. About epileptics in the hope of their recovery or restoration magical rites and incantations could be performed. They could be given all sorts of concoctions composed of horrible ingredients, if not for a cure, as a sort of sedative to quiet them, to tame them, or to make them less dangerous, or to frighten away evil spirits. Various plants or parts of animals were given them to eat. There were instances of holes being bored in the skull to let out the indwelling tormentors. About epilepsy arose all manner of myths and fancies.

Such was the attitude toward the victims of the "falling sickness" for the greater part of recorded history, or until fairly modern times.[1]

Study of the condition of epilepsy or efforts for its alleviation were in general late in appearing among men, though this condition had been recognized in early times. In Arabic, Egyptian, and Hebrew writings there is reference to it, as there is in early Christian writings.[2] It seems to have been noted by the celebrated Greek physician Hippocrates, who lived several centuries before Christ. Referring to it as a "sacred disease," Galen in the second century of the Christian era also attempted a description of the disorder. Arataeus, Archigenes, Pelops, and other physicians of this early period also had a word to say about it. Even at still earlier dates there was greater or less recognition of the matter on the part of physicians or other learned men who speculated and commented upon the strange spectacle before their eyes.[3] Anything in the way of systematized consideration or care for epileptics came, as has just been said, relatively late in the world's history. It was always the physician who was primarily concerned and who sought to study the problem. Certain attention was to be found at a hospital or other institution at some place or other in Europe, or perhaps in Asia, in the early and later Middle Ages. One instance cited is that of a hospital inaugurated by the Bishop of Würzburg in Germany, who reached some. Late in the sixteenth century there are reported similar instances in central Europe, and even more in the century following. It was not till the nineteenth century that we find any organized movement in behalf of epileptics. Though not directly connected with the movement for the establishment of institutions for mental defectives ("feebleminded"), this came about at no widely separated intervals of time—the two movements were in fact to proceed parallel to each other, or indeed to a great extent hand in hand.

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[1] On devices for the cure of epilepsy, see H. Spencer, Principles of Sociology, 1897, ii, p. 221; iii, p. 194; Bibliotheca Britannica and General Index to British and Foreign Literature, 1828; Lean's Collecteana (V. S. Lean), 1903, p. 493; R. Burton, Anatomy of Melancholy, 1652; ed., 1951, pp. 131, 260, 279; W. W. Skeat, Pagan Practices of Malay Peninsula, 1906, ii, p. 246; G. W. Briggs, The Charmers (Tribe of India), 1920, p. 144; J. S. Campbell, Witchcraft and Second Sight in Highland and Islands of Scotland, 1902; W. Reade, Savage Africa, 1864, p. 250; F. D. Bergsen, Ancient Superstitions, 1896, p. 96; Report of U.S. Bureau of Ethnology, 1924, p. 651; *Reliquary*, i, 1860, pp. 43, 112; *Notes and Queries*, i, 1849, p. 349; clxvii, 1934, pp. 112, 148. See also various medical publications. On the protection believed to be afforded epileptics by certain saints, see *Medical History*, iii, 1959, p. 303.

[2] For a Biblical account of an epileptic person, see St. Matthew, xvii, 14-18; St. Mark, ix, 14-19; St. Luke, ix, 37-43. In the code of Hammaburi several centuries earlier epileptics were not full citizens.

[3] Certain famous figures in history are said to have been epileptics, but some of these cases have not been fully authenticated.

It was in France that the modern movement first showed itself.[4] In the year 1846 John Borst, pastor of a church, opened a home near Bordeaux for certain homeless or afflicted persons, in which before long there was set up a department for mental defectives, and one for epileptics. Germany was the next country to follow suit. In 1867 was created the famous Bielefeld colony, a charity of certain ministers of the Lutheran Church, in which somewhat later was instituted what was known as the Bethel home for epileptics—a part of a more general home, hospital and work place.[5] The movement now spread to other countries of Europe, though neither rapidly nor extensively. An institution was opened at Zurich, Switzerland in 1886, and one near Liverpool in England in 1888, with later ones in Surrey and near London, and elsewhere in that country. Belgium and Holland followed. In Germany there was the greatest development, not less than fifty small institutions being set up there. It should be recorded that apart from special institutions for epileptics in one country and another in Europe, there were some cared for in more general institutions or hospitals—some before the establishment of special institutions.

In the United States in early days epileptics were to be found in almshouses or similar places, wandering on the road, or languishing unwanted in their homes. In this country, as elsewhere, initial and primary consideration of epileptics came largely from the medical profession, whose members had the condition of this class brought to their attention in one case after another, and who often recognized the need of some sort of public care or care which was to be both custodial and therapeutic in character. Institutional treatment may be said to have begun about the middle of the nineteenth century, when room was found in some of the institutions for the mentally defective, and to a less degree in institutions for the insane, the latter having the priority in time. Epileptic persons were so placed not only because there was no other recourse for them, but because epilepsy in appreciable measure was combined with mental defectiveness or mental illness, besides there having been in general thought a combination of epilepsy with one or the other two disorders; an institution for the mentally defective or the mentally ill seemed to provide a natural refuge for the epileptic. In some instances epileptics were included in the institution population from the first, whether definitely so intended or not, there being a joint institution from the start; in other instances epileptic individuals were let in from time to time as the need became apparent. Institutions for mental defectives, notably in New Jersey, urged the establishment of special institutions.

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[4] It was in this country that were the first organized movements for mental defectives, the blind, and the deaf.

[5] It is said that financial aid was asked from mothers of perfect or normal children, who responded generously.

The first institution especially for epileptics in the country was one at Baldwinsville, Massachusetts, created in 1882. This was a private affair, rather a hospital or colony for children, into which epileptic and mentally defective children were admitted. Besides private gifts, it had state aid for a time. The first state to set up a public institution for epileptics was Ohio. As early as 1868 the State Board of Charities began to call attention to the matter, and bespoke a special institution, at the same time collecting certain statistics on the subject. In 1880 a "State Commission to Select a Site and Prepare Plans for the Accommodation of Epileptics" was created. In the report made, after the pointing out the number of unhappy epileptic persons in almshouses and elsewhere, it called for action in behalf of "the most deserving and least cared for of all the unfortunate."[6] After further urgings the legislature set up an institution in 1891, under the name of the Ohio Asylum for the Epileptic and Epileptic Insane, in time becoming the Ohio Institution (later becoming an institution mainly for mental defectives.)

Four other states soon followed the action of Ohio, New Jersey and New York in 1894, Pennsylvania in 1895, and Massachusetts in 1898.

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[6] See Report of Commission; Historical Sketch of Ohio Institution for Epileptics, 1905; Souvenir of Ohio Institution, 1909; Messages of Governor of Ohio of the period. In 1879 a bill creating an institution passed one house of the legislature. In several states institutions were planned but no action was taken.

In other states at that time efforts failed for institutions. In the states named epileptics had previously been in institutions with mental defectives. In later years several additional special institutions were created for epileptics—Kansas, Indiana, Michigan, Texas, Maryland, Iowa, Minnesota, and Oklahoma. In most of the other states epileptics were placed in institutions for mental defectives, possibly as joint institutions. For some states they were, and still are, placed in mental hospitals. In general, provision for epileptics followed that for mental defectives.[7] With institutional life for epileptics becoming less necessary, there results less need for special institutions for them; those with other disorders will find a place in institutions for mental defectives or in institutions for certain other classes. Special institutions for epileptics may now be said for the most part to be disappearing. Certain ones are joint institutions to include other classes, particularly mental defectives.

The procedure in the establishment of institutions for epileptics has not been greatly different from that in the establishment of institutions for mental defectives, so far as the two classes were not provided for together.[8]

For the most part provision for epileptics—and in fact as well for mental defectives—was the result of urgings on the part of heads of institutions for the insane and of heads of institutions for mental defectives alike. In some cases state boards of charity or of "lunacy" pleaded the cause of epileptics. Medical bodies and medical journals, in close touch with epileptic cases, were not slow in calling attention to the need.[9] There was also concern on the part of various local officials having to do with the defective or dependent classes. By state and national welfare bodies voices were raised, notably by the National Conference of Charities and Correction (later the National Conference on Social Welfare). National bodies interested in the mentally ill or in mentally defective were likewise interested, besides national bodies particularly concerned in epileptics.

In the setting up of institutions quite generally the first step was the creation of a commission, which was to investigate the need and to make report as to the advisability of an institution, perhaps examining what had been done along this line in other states. Now and then an institution came into being to relieve pressure or overcrowding at an institution for the mentally defective or for the mentally ill.[10]

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[7] Illinois appears to have set up an institution for epileptics before one for mental defectives, though in time this resulted in a joint institution. In several other states special institutions for epileptics became in time joint institutions. In a few cases departments were set up in institutions for the insane.

[8] See H. Best, p. 5, Public Provision for Mentally Retarded in United States, 1965.

[9] See reports of medical bodies and journals of the period. In 1877 in the *Medical Record* was carried a series of articles on the subject.

Often at the beginning the institution brought into being was small in scope, it being the intention to expand it in the course of time. Sometimes an old farm house was chosen for the purpose, to be the nucleus of an institution or possibly some old little used building of some kind, as a hotel no longer occupied.[11]

The purpose of the new institution might be set forth in some such expression as provision for "curative, humane, scientific, or educational treatment of epileptics." In reports of public commissions or other communications regarding institutions the term "segregation" was often employed.

Legislatures in general listened attentively when the claims of the new venture were presented to them, and often quite sympathetically. When they held back it was almost always with a feeling that funds were not available for the purpose. In some cases favorable action was taken by a decided majority.[12] Governors were also inclined to look with favor upon the enterprise so far as too much money was not required.

In addition to the state institutions that have been established for epileptics, whether for them alone or conjointly for the mentally defective,[13] there have been private institutions set up from time to time, mostly in connection with institutions for mental defectives.[14] Special day schools for epileptic children have been rare, but rather special facilities in the regular schools, insofar as they have been in use.[15]

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[10] In Kentucky as early as 1867 action was requested by the state mental hospital. See reports of boards of charity or lunacy of Massachusetts, New York, Pennsylvania and other states of the period; reports of institutions for the mentally ill and for the mentally defective in many states. See also Message of Governor of New York, 1894, p. 36; and other years. See also Proceedings of National Association for Study of Epilepsy and Care and Treatment of Epileptics, 1906, p. 240.

[11] In New York (Sonyea) the buildings of an old Shaker colony were adapted. In Massachusetts such was the case with an old state primary school. In a private institution in Missouri an old college building was availed of.

[12] In New Jersey action was taken by a unanimous vote.

[13] In Southern states Negro epileptics have largely been placed in institutions with the mentally ill, if not with the mentally defective. There have been a few small centers for war veterans who were epileptic. For fuller discussion of institutions, see H. Best, Public Provision for Mentally Retarded in the United States, 1965. On management of institutions, see Report of Attorney-General of New York, 1891, p. 218.

[14] See chapter on Private Institutions.

As we have said, special institutions for epileptics may now be asserted to be passing except for persons with other affections, or for those for whom no other care is at hand. So far as institutionalization is called for, it is likely to be for those in need of neurological or psychiatric attention, apart from those with actual mental defect. The day of the special institution for epileptics seems now nearing an end.

Note to Chapter XVII.—On the history of institutions for epileptics see proceedings of organizations concerned with the mentally defective, the mentally ill, and the deaf; Collins' Short History of Some Common Diseases, 1934, p. 114 (History and Conquest, 1954, p. 203); J. R. Whitwell, Historical Notes on Psychology, 1937, p. 28; G. Zilboorg, History of Medical Psychology, 1941, p. 43; O. Timkin, Falling Sickness (Publications of Institute of History of Medicine) various histories of medicine;

Johns Hopkins University Monograph, i, 4, 1945; Bulletin of Johns Hopkins Hospital, 1933, p. 22; Historical Sketch of Ohio Institution, 1911; Iowa Bulletin of Institutions, 1907, p. 76; Jewish Encyclopedia, 1906, v, p. 426; New York State Board of Charities, Eugenic and Social Welfare Bulletin, no. 7, 1916; no. 9, 1917; Hippocrates, General Works, ii, 1949, p. 833; *Medical Record*, xxxi, 1887, p. 463; *Nervous Child*, lxi, 1901, p. 186; *National Geographic Magazine*, xlii, 1922, p. 330; *Psychiatric Quarterly*, ii, 1928, p. 422; *Mental Hygiene*, ii, 1898, p. 422; *Annals of Medical History*, 1921, p. 614; 1929, p. 453; 1930, p. 614; 1938, p. 251; 1939, pp. 283, 372, 482; 1941, 182; *Antiquarian* iii, 1848, p. 299.

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[15] See chapter on Day Schools.

Chapter XVIII

ORGANIZATION OF INSTITUTIONS

In only a few of the American States—and these decreasing—have there been special institutions for epileptics. In many of the institutions for mental defectives, epileptics no longer find entrance. In certain states the only institutional provision is with the mentally ill.[1] Of later days there has been a tendency to place alcoholics, paralytics, and other classes more or less mentally or physically affected all in need of medical attention or without suitable care elsewhere, in institutions along with epileptics. Some institutions starting out as for epileptics were in time given over to mental defectives, perhaps with some present who were also in an epileptic condition. In some states mental defectives were admitted to institutions originally created for epileptics or for epileptics and mental defectives together. In most of the states where there have been created special institutions for epilectics, these in time became joint institutions for mental defectives as well.[2] For the most part epileptics have been placed in institutions originally designed for mental defectives. Institutions have sometimes been known as "colonies" or "villages."

In nearly all cases institutions have been strictly public affairs owned by the state and supported by public taxation, under the care and supervision of the several state legislatures. In one or two instances, as in Pennsylvania, the institution has been a private one under its own trustees, but receiving state aid, and subject to its supervision, thus a semi-public institution. The institutions have in general been under the state department of public welfare (whatever it may be called) or of mental health. Some of those in New Jersey and New York have been under their own boards of trustees, but with state oversight and direction. In certain cases the institutions have had relation to the institutions for the mentally ill. The trend has been to have the institutions connected with departments of mental hygiene.[3]

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[1] In some general hospitals and in a few orphanages or like institutions there have been special wards for epileptics. There have been a few small centers for epileptic war veterans.

[2] States having first institutions for epileptics to which mental defectives were later admitted are Illinois, Kansas, New York, Pennsylvania, Ohio and Virginia.

[3] Action in certain states may be given. In Illinois in 1913 was created the Dixon State Hospital for epileptics, a year later becoming a joint institution with mental

defectives. In 1917 there was planned an Industrial Colony for Improvable Epileptics. In Indiana in 1905 there was established the Indiana Village for Epileptics at New Castle, in 1955 becoming the New Castle State Hospital. It has been under the state department of mental hygiene in a special division, formerly under a special board of trustees and under the state department of public welfare. In Iowa in 1917 was created the Iowa State Hospital and Colony for Epileptics at Glenwood, later becoming a joint institution with mental defectives. In Kansas the Parsons State Training School was opened in 1903. In 1919 it became the Parsons State Hospital. It has been under the state department of public welfare. In Maryland in 1914 was created the Maryland Colony at Fort Deposit. In Massachusetts a private institution was opened at Baldwinsville in 1882, receiving state aid. The Monson State Hospital was established at Palmer in 1895. It has been under a board of trustees, but with supervision by the state department of mental hygiene. In Michigan the State Hospital for Epileptics was established at Caro in 1913. It has been under the state department of mental hygiene. It has had some relation with the mentally ill. There has been a farm colony at Wahjamaga. In Minnesota the Minnesota Colony for Epileptics was established at Cambridge in 1919. It has been under the state department of public welfare. In Missouri epileptics were for a time with mental defectives at Carrollton. In New Jersey the State Village for Epileptics was created in 1894 at Skillman. In 1954 it was opened to other classes. It has been under the state department of public welfare, with a board of directors. In 1964 it became the State Neuropsychiatric Institute. In New York Craig Colony was established at Sonyea in 1890. It has been under a board of trustees, with general supervision by the state department of mental hygiene. In 1873 a special ward was created for epileptics in the department of welfare in New York City. A private institution, the Bushwick Home, created in 1887, received some public aid. In Ohio the Ohio State Hospital for Epileptics was opened in 1893 at Gallilopis, later known as the Ohio Institute. It has been under the state department of mental hygiene. It was formerly under a board of trustees and under the state department of public welfare. In Oklahoma the Paul's Valley State Hospital was opened at McAlester in 1949, having been the Central State Hospital founded in 1945. In Pennsylvania the Selinsgrove State Colony was established in 1926. It has been under the state department of mental hygiene. A private institution at Oakbourne has received state aid. In Texas the Texas State Hospital was established at Abilene in 1904. It was known for a time as the State Colony. It has been under the state department of public welfare.

Chapter XIX

GENERAL REGULATIONS AS TO ADMISSION OR COMMITMENT TO INSTITUTIONS

Persons who have been received into institutions for epileptics (generally with mental defectives) have been admitted or have been committed, regulations and treatment being much the same for all who enter. Within the physical capacity of the institution, and within possible occasional county quota or other legal limitations, the institutions have been open to all qualified to enter or have been legally assigned there, particularly those regarded as in urgent need of attention or most likely to receive benefit. Voluntary commitment might have been allowed, much depending on circumstances. If epilepsy alone was involved, and the case was not serious, there was increasing belief that institutionalization was not necessary. Apart from contact with mental defectives in some institutions, there has been a tendency in special institutions for epileptics to admit other classes as inebriates or paralytics, as already indicated. When there have been no accommodations at an institution, the county has generally remained responsible.

To obtain admission into an institution there often must have been as a prerequisite legal residence of the patient or of his parents established within the state, which is usually six months or one year or possibly several years.[1] Care has been exercised to discourage moving into a state for the purpose of utilizing an institution therein. There has been a tendency toward reciprocal arrangements in this respect between some states.[2] For admission there must in general have been a court order whether or not action was of voluntary character. If commitment was necessary, the state might be satisfied if there was placing in a private institution. When once a person was in an institution it has had broad powers over him, not only as to his care and treatment there, but as to his removal or departure therefrom, unless there was a legal separation otherwise involved.[3] Possibly a contract had to be signed that one was to remain till formally discharged. Termination of one's stay in the institution otherwise than by its own action was possible only by death or by court procedure in case the court retained this power, or unless there was a fixed time for one's stay. The institution has usually been in position to determine whether and when release was in order. Writs of habeas corpus are applicable here in case of wrongful holding.[4]

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[1] In some states local authorities (county or city) have been required to inform the institution of local cases.

[2] It was generally advised that there be no deception as to a patient when he was brought to an institution.

Unless the age limits of attendance are the same for epileptics and mental defectives when in a joint institution, a person might remain as long as seems best, for life if necessary. The tendency has been to admit at practically any age, as above, unless laws also relating to mental defectives were different.

At the beginning, when considered largely for children, especially mental defectives, public institutions were for the most part without cost, at least to the indigent.[5] Even where the imposition of charges was authorized, such charges existed more in form than in reality. So far as the institutions could be looked upon as in some measure educational, the notion of levying charges had little place. So far as the institutions were to be regarded as of custodial character, the elimination of charges was in keeping with usual policies in respect to eleemosynary or public welfare institutions.[6] This has been of all the more force in view of possible legal commitment. (Now and then today we find a formal preference for the "indigent" or "pauper".) In certain states payment might be required if parents or other near relatives or guardians were in position to do so. In such cases there may be expected actual costs or some part thereof. In about one-fourth of the states the county was expected to assume a greater or lesser part of costs. A number of states have had more or less obsolete laws requiring pay where possible, or reimbursement to the state if to be had. Sums demanded are never large. Hence at the present time institutions might be regarded as practically, if not nominally free, at least for those not able to make payment. On the whole fees charged or collections made amounted to very small amounts, not over 5 per cent of total costs.

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[3] In Appendix F is a section on Admissions to and Separation from Institutions up to 1959.

[4] Where there was question whether an epileptic patient should be sent to a mental hospital or to an institution, a writ of habeas corpus was in order as in *People v. Thayer* in New York in 1923 (121 Misc. 745, 202 N.Y. Supp. 633). See also *Stevens v. State* (94 Okla. Crim. 216, 232 Pac. 949, 1951). A similar decision was rendered in *Ex Parte Ziegler* in Wisconsin in 1944 (245 Wis. 453, 15 N.W.2d 231). In the case of *Dowd v. Harmon* in Indiana in 1902 (229 Ind. 254, 96 N.E.2d 902) the transfer of a patient from an epileptic village to a mental hospital was in order.

[5] See chapter on Costs of Institutions.

[6] When formal fees were set they ranged up to $200 a month.

Laws in the American states as to the involuntary commitment of epileptics to institutions have been much on the order of those applying to the mentally ill.[7] When commitment was found desirable or necessary, application was to be made to the proper local judicial authorities, usually in the form of a petition based upon information and belief, and verified by affidavit. This might be by parents or other relatives (next of kin) or by guardian or by an interested reputable citizen; or in lieu thereof by a public official. As a general thing the individual concerned might be brought before a court for commitment proceedings.[8] The court was often the county court or the probate court or a court of like jurisdiction, possibly a juvenile court or a court having authority as to neglected, dependent, or delinquent children. In certain states commitment might be made after an inquest by a jury. Usually there must be certification as to one's condition by two physicians. After the hearing (or trial) and it appears best to the presiding judge at the proceedings, commitment might be ordered. In the proceedings the rights of the individuals concerned were theoretically to be carefully protected—for one thing, to prevent possible "railroading" to an institution. Counsel was permissible. In some states wrongful commitments or wrongful attempts were criminal offenses. If one was found incompetent, a guardian was to be appointed, whether or not an institution was to be availed of.

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[7] Where a trust fund was to be used for the benefit of an epileptic person only after he had left an institution, there could be no reimbursement of the state for his support while there, as decided in *State v. Eubion* in Texas in 1956 (Tex. Civ. 292 S.W.2d 650).

[8] On judicial decisions affecting the matter of admission or commitment of epileptics to institutions, see H. Best, Public Provision for Mentally Retarded in United States, 1965. On the resemblance of such treatment to that with respect to the mentally ill, see *Maynard v. State* (106 Tex. Crim. 588, 293 S.W. 1004, 1927). On illegal commitment, see *Greenman v. Dixon* (212 Mich. 687, 180 N.W. 487, 1920). See also Opinions of Attorney-General of Iowa, 1920, p. 83; 1944, p. 154; Opinions of Attorney-General of Massachusetts, 1899, p. 92; Opinions of Attorney-General of Indiana, no. 15, 1959; Report of New Jersey Institution, 1899, p. 11; *Charities and Commons,* viii, 1901, p. 537.

In some states, and an increasing number, there was first recommendation or main action by state welfare authorities. With those states having mental hygiene departments the matter was more or less left in their hands. Instead of a medical examiner in the form of a physician or general practitioner to pass upon the question, a recognized psychologist or psychiatrist or an examiner from a state mental hospital or from an institution could be called upon, with recommendations to the judge. In such cases examination was more thorough, and more or less elaborate, with more careful safeguards, with a fuller understanding of the nature of the case, and according to more scientific principles. In general, psychologists and psychiatrists have been availed of in increasing measure, with clinical features having a large part in the proceedings. Social workers might also have a word to say, and perhaps also representatives from the field of education.

So far as epileptics still have a place in institutions, what has just been said in this chapter applies in no less measure.

Chapter XX

WORK OF INSTITUTIONS

The purposes of institutions for epileptics have generally been declared to be to provide humane, curative, and scientific care and treatment. They have been intended for the more severe cases or those for whom no other provision has been possible or desirable. Milder cases might be cared for at home if proper attention was at hand. The work of the institution has had to be of both custodial and therapeutic character—more than custodial alone. A foremost feature must be hospital facilities for the large number who would be in need of them continually or from time to time, involving much in the way of nursing service—some being bedridden and requiring constant attention. Some have had other defects or complications with other disorders. Full attention has had to be given to considerations of general health in the institution community and of personal hygiene. Possible seizures have had to be anticipated, and guarded against as far as possible. There must be a lookout for possible accidents. (Patients are encouraged to go about in pairs, so that if one should have an attack, his companion would be able to render some assistance.) The matter of diet, with the quantity and quality of food to be consumed by the inmates or patients, has played an important part in the work of the institution. Exercise and recreation have been regarded as of distinct medical value and aid. In outdoor activities there has been invigoration and general gain. Included in recreational facilities have been sports, athletics, games, outings, plays, boy scout activities, and various forms of entertainment.[1] With some, music has been quite beneficial both instrumental and vocal. There might be organized choruses and choirs, bands and orchestras.[2] Entertainments might be provided from time to time, either from outside or by local talent. Occasionally a paper might be published, giving local news, as well as a source of information to families and friends. Outside contacts in the community were to be encouraged.

For those who could receive or be benefited by an education, school facilities were to be provided. These were for the most part of elementary character, but provision might be made for more advanced school work. For those who were mentally affected less has been attempted in the way of formal education. For any so qualified, and young enough, attendance at regular schools has been desirable. Libraries of greater or less size were to be maintained, and the use of them encouraged. Religious ministrations and instruction were generally to be afforded, for the most part by visiting clergymen and religious workers,[3] though in larger institutions they were to be part of the staff. Religious organizations and activities were to be encouraged.

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[1] See V. V. Hunt, Recreation for Handicapped, 1955, p. 149.

[2] See *Motive* (Ohio Department of Mental Hygiene and Correction), June, 1956.

Institutional treatment for epileptics has been found to be best secured through something on the order of a colony, to be more fully considered later. Buildings are mostly to be small or of the cottage type. What is known as occupational therapy has a large place. No little farming is carried on as a matter of course. Included are livestock raising, dairying, gardening, orcharding, poultry raising. Farms may be of considerable size, often covering a wide field of operations. Supervision may be in the hands of trained agriculturists, and carried on in business-like fashion. Those of the inmates or patients who have been at all qualified to do some farm work were to be given a place in it. Such work is most desirable for them on several counts. As a measure of discipline it is of high value. It is of potential service to those who may be released and leave the institution for their own homes. It has distinct therapeutic values—a matter of increasing recognition for all groups mentally affected. On the farm the labor of inmates can contribute much to provide a food supply for it. Possibly some products can be marketed. A large part of the domestic work of the institution can be carried on by inmates—food preparation, laundering, domestic service, road work, and general minor repair work.

For those so qualified some vocational training may be afforded along suitable lines, both for therapeutic values, and in possible preparations for employment outside the institution when and if there is departure. Occupation aptitudes and abilities are to be looked into and put to use.

In the institutions there has been necessarily much psychiatric work, much psychological work, much laboratory work, much research. Institutional life and surroundings are to be made attractive and home-like. For those whose residence is permanent the aim is to make them as comfortable and happy as possible.

Work of the institutions need not be confined to those within its precincts. Apart from concern in parole and colony features, there is to be a friendly interest in those who passed from it, even if no longer under its supervision and direction. There might be afforded advice and counsel to family circles as to the proper care and treatment of epileptic members—even to those who have never made entrance to it. Home visits by certain ones, perhaps on trial, were to be allowed under careful guidance. The institution might be in touch with local medical and welfare agencies in promoting the welfare of epileptics away from it. The institution might have greater or less part in the operation of out-patient clinics, which are of such great value. Follow-up work for those no longer inmates under field agents or social workers is much to be desired.[4]

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[3] On religious work with epileptics see *Pedagogical Seminary*, lxxviii, 1951, p. 145; *Journal of Religion*, l, 1921, p. 391; *Journal of Mental Science*, xvii, 1873; *Journal of Psycho-asthenics*, xlii, 1937, p. 59.

In large institutions there has been a considerable range in the personnel staff and employees; in smaller institutions, a smaller range. Included might be physicians, psychiatrists, psychologists, laboratory technicians, teachers, nurses (including professional nurses), therapists, social workers, dieticians, clinical directors, business agents, field agents, and others. Some institutions have had training facilities for nurses and others; some nursing training is provided by general hospitals. In institutions for mental defectives and epileptics together there have been three or four patients or inmates on the average to each staff member or employee, the more when institutions are for epileptics only. Some institutions have been overcrowded.

What is said here has like application to institutions in which epileptics are now accepted.

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[4] On after care of patients, see H. B. Crutcher, Home Care of Mentally Ill, 1944; *Journal of Mental Science*, lxvi, 1916, p. 151.

Chapter XXI

COSTS OF INSTITUTIONS

Practically all the means for the support of public institutions for epileptics in the United States (and for mental defectives as well) has come directly from the public treasury. Private gifts in aid have been but occasional and sparing, for the most part nonexistent.[1] The maintenance of the institutions has in general been the responsibility of the legislatures of the several states, being undertaken directly by them. Appropriations have been usually in lump form, though sometimes on a per capita basis.[2] In certain states there might also be county funds to assist. Charges for transportation and clothing have often been paid by the county, though in some cases they might be assumed by the state. Additional amounts might at times be received from fees or charges imposed upon inmates whose families have been able to make payment or reimbursement.[3] In certain instances the products grown on the institution farm might be of substantial character in the matter of support.[4]

Costs of private institutions have come in the main from fees charged upon patrons. Costs in day schools have been from city funds or from state and city funds together.[5]

We have no figures as to the value of the physical plant or property that have been used for institutions for epileptics (and mental defectives as well). (In 1933 the value of state institutions for both classes was set down as $140,000,000. If one-sixth of this amount may be regarded as for epileptics, the value as to them would be something like $24,000,000.

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[1] On private benefactions, see next chapter.

[2] In Colorado there has been a special tax levy for institutions, amounting to 994/100,000 of 1 mill. In Michigan a county institution receives state appropriations on the basis of a state institution.

[3] Less than 5 per cent of the total costs of institutions for both epileptics and mental defectives came from paying inmates, or in respect to about one-sixth of inmates.

[4] Certain states in the West on their admission into the Union received from Congress grants of land, the proceeds of which were to some extent to be for educational and charitable institutions, with possibly institutions for mental defectives and epileptics benefiting to a slight extent in some instances.

[5] On costs of institutions, see Opinions of Attorney-General of New York, 1899, p. 311; Ohio, 1893, p. 63; 1894, p. 52. On county charges, see Opinions of Attorney-General of Ohio, 1902, p. 124; 1903, p. 31; 1934, pp. 3067, 3529.

Values today would be considerably greater, though the proportion for eipleptics need not.) The value of the property of private institutions would add somewhat to these sums.

The cost of the maintenance of the public institutions for epileptics and mental defectives in 1960 was in round numbers $300,000,000. The proportionate cost for epileptics would be around $50,000,000. Costs were distributed as follows: salaries and wages, about two-thirds; purchased supplies, about one-sixth; fuel, light, and water, 5.0 per cent; other expenditures, one-sixth. With costs of additions and improvements, total costs amount to about $50,000,000. In general, farm and garden products were not included. Per capita costs varied much among different institutions, ranging from a few hundred dollars to several times as much. Costs where epileptics are involved are a little greater than where mental defectives are involved, the former requiring the more attention.[6]

With the decreasing numbers of epileptics in special institutions, their total costs will become less and less, but not necessarily per capita costs.

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[6] Not included are costs in regular day schools or in private institutions.

Chapter XXII

PRIVATE BENEFACTIONS TO INSTITUTIONS

Private benefactions or donations for the benefit of institutions for epileptics (and for mental defectives as well) have, as we have seen, been slight, and on the whole practically negligible. Important as the work here may have been, it has not made the appeal to persons of means or to the general public that it well might. With larger resources the institutions could have been prepared to do better work, not only in their day-by-day operations, but in undertaking valuable research studies. Main reliance for their work has, as we have noted, been upon public funds. One or two of the private institutions have had some aid here, as have several of the joint institutions for epileptics and mental defectives. Institutions for epileptics receiving certain sizeable donations have been chiefly those in Eastern states. Notable gifts have come to semi-public institutions for mental defectives, with a small proportion of epileptics, particularly in New Jersey and Pennsylvania. Donations so far as they have come have been mainly from churches, fraternal orders, and individual citizens. In a few instances there have been gifts of tracts of land, possibly as an inducement for location at a particular place. The size of these tracts has been from a few acres to a thousand or more. In several cases buildings have been given, perhaps in already existing ones. Apart from joint institutions receiving such grants, special institutions for epileptics that have been favored have been those in Ohio, New York, Texas, and Oklahoma.[1]

Mention should also be made of gifts from time to time for the inmates in the way of clothing, entertainments, Christmas presents, etc.

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[1] In Ohio 150 acres were given, in Texas 640 (from the state), and in Oklahoma 110 acres.

Chapter XXIII

COUNTY AND CITY INSTITUTIONS FOR EPILEPTICS

Care and support of epileptics on the part of individual counties has been of very limited extent in the United States—apart from maintenance for a greater or less length of time in local almshouses and similar institutions. Upon the county has usually evolved the responsibility of looking after dependent epileptics. In several states counties have been allowed at times, particularly before the creation of a state institution, to place such persons by whatever arrangements appeared best. Now and then epileptics have been admitted to local institutions for the mentally ill.[1] Of epileptics admitted to mental hospitals (for the mentally ill) a few per cent have been to local county or city institutions.[2]

By several cities has been taken the responsibility of providing for epileptic persons, though principally for mental defectives, for a greater or less length of time, with their giving up the field in time to state institutions. Examples are Philadelphia, New York, St. Louis, and New Orleans. Epileptics placed here seem to have been few in number. In several cities, notably in New York, epileptics have been received for treatment in neurological institutes. In many cities there have been set up mental hygiene clinics available for epileptics.

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[1] In Nevada, without a special institution, counties have been permitted to make provision for epileptics within or without the state as they might see fit.

[2] In Michigan the Wayne County (Detroit) Training School, part of an institution for mental patients, had received some epileptics, for whom the state has paid on the same basis as for those at the state institution.

Chapter XXIV

EPILEPTICS IN REGULAR DAY SCHOOLS

Epileptics of school age, of sufficient mental ability, and whether or not in institutions, should have due educational facilities no less than all other children. The life of the epileptic child both at home and at schools should be as nearly normal as possible. Those capable of attending regular public schools, and not given to too frequent seizures, or with seizures under control, should be so placed along with school children in general. Teachers and pupils often need to be informed of the situation. Fellow pupils should be told proper attitudes towards an epileptic.

In some cases where desirable and where there are a sufficient number of children special classes may be set up. In some cases there may be preparation in special classes with later admittance to regular classes. In the school there should be ample provision for vocational training. There should be some connection with rehabilitation centers. Recreation should have its full share of consideration. Transportation to and from school should be arranged as needed. Medical and clinical attention should be ever available. Some special training is desirable for teachers concerned with epileptic children.

Attendance of epileptic children at regular schools has had only partial regard in the United States, though a number of cities have had some provision here. Cleveland, even before the present century, had taken steps in this direction. Detroit in 1934 took notable action. Some of the states have laws on the subject, with funds coming from the state or from the city or from both. If special classes are provided for, there is usually to be a minimum number of pupils.[1]

When an epileptic child is unable to attend school, he should be provided with home or visiting teachers, and with proper facilities for studies at home. Extension teaching should be made available for all home-bound epileptics of whatever age.

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[1] On the epileptic child at school, see National Epilepsy League, Our Schools and Our Children with Epilepsy; *Nervous Child*, vi, 1947, p. 996; *New York State Journal of Medicine*, xxxvii, 1937, p. 1553; *Ohio State Medical Journal*, xlvi, 1950, p. 794. On higher education see *Epilepsia*, xiii, 1947, p. 35; xxi, 1955, p. 162.

Chapter XXV

EPILEPTICS IN INSTITUTIONS WITH MENTAL DEFECTIVES

As we have observed, epileptics and mental defectives have often been found in association, in the public mind as well as in joint institutions, which has been the case in many of the states. It is true that an appreciable proportion of epileptics are also of low mentality. Of those in institutions for both classes, about one-sixth have had both disorders. It is claimed that when the two disorders are together it is not easy to make clear distinctions.[1] In the special institutions having epileptics there have been some who could be classified as of rather weak minds, but the great majority of such cases have been in institutions for mental defectives.

For persons who are with both disorders, there sometimes being a connection between the two, a joint institution is the place for them. But for persons who are not so, separate provision is to be made. Epileptics who are of sound mind have no right to be set apart with mental defectives. Such epileptics as are in need of institutional care should have an institution of their own where they are not to be confused with those of mental defectiveness, and where they can receive the therapeutic care and attention called for in their case—where they will be better off in general.[2] They can also be better fitted to return to their own homes or communities, and relieve the state of their expense. Epileptics in general without mental defect are in little need of institutional care.

The reason why epileptics have been with mental defectives was mainly in the additional expense that would be involved in the creation of separate institutions, especially in the creation of separate institutions for epileptics, and because a number of epileptics are also mentally defective. The matter is felt to be largely one of public economy. From earlier days there has been protest against the joint institutionalization of epileptics of sound mind with mental defectives; but until recently there has been limited movement to effect a change. At any rate, when epileptics of sound mind are so placed, they should be in separate quarters so far as possible.[3] The diminishing need for institutional provision for epileptics renders less necessary special institutions for them. Persons both epileptic and mentally defective should be in institutions for the latter.

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[1] It has sometimes been said that one-fourth of mental defectives are epileptic, and that nine-tenths of epileptics in institutions are of low mentality.

[2] Attacks of epileptics when witnessed by those with mental defects have unhappy effects on both.

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[3] On this subject see Bulletin of Iowa Institutions, 1906, p. 2; Proceedings of National Conference of Charities and Correction, 1886, p. 296; Report of Ohio Board of Charities, 1878, p. 5; New York Board of Charities, 1897, p. 59; Pennsylvania Board of Charities, 1893, p. 34; 1894, p. 17; Massachusetts Board of Charity and Lunacy, 1892, p. 109; 1894, p. 130; boards of charities and like bodies of different states; Message of Governor of Massachusetts, 1897, p. 27; Message of Governors of other states; *Alienist and Neurologist*, iii, 1882, p. 328.

Chapter XXVI

EPILEPTICS IN HOSPITALS FOR MENTALLY ILL

There is undoubtedly a potential connection between epilepsy and mental disturbance. A condition of epilepsy may sooner or later affect the mind and cause its deterioration more or less. The one may be a precursor to the other. The larger number of epileptics are, at present, free from mental illness; the smaller number are with it. The proportion of epileptics who are mentally ill is not fully known. It is sometimes said that something like one-fifth are so.

As we have already found, in states without special institutions for epileptics (and mental defectives), and in many states with such institutions, persons of this description may be placed in hospitals for the mentally ill, possibly along with mental defectives, there being no other receptacle or sanctuary for them. For such there may be special sections or departments, or there may be little separation of the two groups. Persons admitted to mental hospitals are supposed to be generally for protracted care, though not necessarily for life if at anytime therapeutically fitted to leave, or if other suitable accommodations can be found. Patients are for the most part in adult life, the median age being double that for those in the special institutions. Those who have been admitted to mental hospitals have been as a rule mostly in states not having special institutions for epileptics or for epileptics and mental defectives together. In certain states those placed in mental hospitals may have constituted one-half or more. In those states without special institutions all epileptics under care have been in mental hospitals. In some years the outflow of epileptics from mental hospitals may actually exceed the inflow. Mental hospitals are little involved in transfers to or from other institutions, except that some in them who can suitably be placed in special institutions are sent thereto.

There may be several factors to explain more or less the high rate of discharges and readmissions of epileptics with respect to mental hospitals. Institutions may be expected to have a greater number of cases requiring long-time custodial care; mental hospitals, on the other hand, may have a relatively greater number of less serious cases with whom there may be readier releases. Doubtless some in these hospitals have later been transferred to special institutions where longer care is to be had.

In regions of the country where there have been no special institutions for epileptics or where a considerable proportion have been placed in mental hospitals, epileptics when given discharge may on their return to their own communities, at subsequent time have been found again in need of institutional treatment, with the only resort back to the mental hospital. Possibly better care or better methods of rehabilitation in mental hospitals in some states may have had effect upon the matter.

The place of epileptics who are mentally normal is not in mental hospitals with the mentally ill. The effects upon one class from the presence of the other is not wholesome; it may be depressing, and may do harm to both.[1] Epileptics may have resentment to the enforced association or confinement with the others. Epileptics who are also mentally ill may be placed in mental hospitals, but to be in separate quarters, so far as possible, as already pointed out.[2]

This joint arrangement has prevailed in different parts of the country, but most pronouncedly in the South. Here for the most part, as we have likewise seen, almost the only place for Negro epileptics is the state mental hospital. Though in past years only about one-fifth or one-fourth of the entire number of epileptics of the country in institutions of any kind were to be found in mental hospitals, something like one-half or two-thirds in the South were at times to be found here. In some states the placing of epileptics with the mentally ill is forbidden, though the law is not always complied with.

In the following table is given the percentage of first admissions of epileptics or persons "with convulsive disorders," or both, to the several kinds of hospitals for the mentally ill—state, county, psychopathic, and private, with the percentage for discharges from general hospitals with psychiatric facilities (1952-1959).

In all these hospitals together less than 2 per cent are to be characterized as epileptics or persons with convulsive disorders. The highest proportion for some years are those in state hospitals, and for other years in general hospitals, both of which may have less selective power

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[1] "The influence [upon each other] is demoralizing in every way." Report of Minnesota Institution for Defectives, 1890, p. 99. See also *Neurology*, lvi, 1955, p. 419.

[2] On association of epileptics with the mentally ill, see Proceedings of American Medical Psychological Association, 1904, p. 180; Proceedings of National Conference on Charities and Corrections, 1908, p. 196; Bulletin of Iowa Board of Control, 1906, p. 444; Transactions of National Association for Study of Epilepsy, 1877, p. 35; 1908, pp. 120, 162; *Cooperation*, vi, 1906, pp. 263, 364.

Per Cent of Epileptics in Mental Hospitals

Kind of hospital	1959	1958	1957	1956	1955	1954	1953	1952
State	1.6	0.9	1.7	1.7	1.8	1.9	1.5	1.8
County	—	—	—	—	—	—	1.2	1.3
Psychopathic	1.5	1.5	1.4	1.4	1.3	1.4	1.6	1.2
Private	0.4	0.4	0.5	0.4	0.5	0.6	0.8	0.9
General	0.6	0.6	0.7	2.7	1.3	3.8	3.0	2.0

with respect to those who are received in them. Private hospitals have the lowest proportions, they having rather wide selective powers. Epileptics appear no longer to have a place in county hospitals. Over the years there seem to be little changes in the several proportions.

In the following table are given the percentages of all first admissions of epileptics who have been placed in hospitals for the mentally ill among first admissions to both institutions and hospitals, and the percentage distribution of such admissions to mental hospitals according to kind—state, veterans, county and city, and private—for the years 1938 to 1951.[3]

Of all first admissions of epileptics to institutions of any kind for the period in question, from one-fifth to one-fourth in general have been to mental hospitals, though in war periods the proportion may have been much larger, possibly reaching one-half. Over the years there are variations in the proportions in mental hospitals. Of all first admissions to mental hospitals much the larger number—two-thirds or three-fourths usually (at times almost all)—have been to state hospitals. In veterans hospitals, mostly availed of in war years, the proportion has usually been less than one-tenth, of later years nil; in war years, it has been as high as two-thirds. In county and city hospitals, found in a few states, there have been but a few per cent. In private hospitals, found in about half the states, there has been usually from one-tenth to one-fifth. The proportions in the several hospitals have varied from year to year. There seems to have been an increase on the whole with state hospitals, possibly indicating a decline with the other mental hospitals, with the state hospital becoming more and more the receptacle for epileptics who are placed in mental hospitals, or with increasing concentration here. There has appeared a slight increase also with private hospitals.

In the table on page 143 is given the percentage of first admissions of persons "with convulsive disorder" to hospitals for the mentally ill among all institutions of any kind both special institutions and mental hospitals (with or without inclusion of discharges), and the percentage distribution of such admissions according to the form of mental hospitals (1952-1959).

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[3] In 1951 of the total population in state mental hospitals the percentage with psychosis (with convulsive disorder) was 2.5, in county and city 1.0, in psychopathic 0.7, and in veterans 1.4. The corresponding percentages for those without psychosis (with epilepsy) were 0.6, 0.8, 0.7, and 0.6. Of first admissions the percentage with psychosis to state hospitals was 1.3, to county and city 1.0, to psychopathic 1.1, and to private 0.5. The respective percentages for those without psychosis were 0.5, 0.4, 0.8, and 0.3.

PER CENT OF EPILEPTICS IN MENTAL HOSPITALS

Hospital	1951	1950	1949	1948	1947	1946	1945	1944	1943	1942	1941	1940	1939	1938
						Per cent of total								
	29.1	29.0	23.5	21.8	19.6	48.3	30.0	24.9	18.8	20.9	22.8	19.4	23.6	24.4
						Per cent distribution								
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
State	80.5	77.8	77.0	69.0	71.7	24.0	57.9	57.4	68.2	72.7	69.4	71.6	71.7	58.7
Veterans	—	—	—	—	—	68.7	25.7	20.1	11.3	7.7	6.8	8.4	7.9	6.7
City, County	2.3	4.5	3.4	1.6	2.5	0.7	1.8	0.6	4.4	3.5	7.9	5.6	9.5	17.4
Private	17.2	17.7	19.6	29.4	25.8	6.6	14.6	21.9	16.1	16.1	15.9	14.4	10.9	17.2

PER CENT OF EPILEPTICS IN MENTAL HOSPITALS

Hospital	With discharges from general hospitals							
	1959	1958	1957	1956	1955	1954	1953	1952
Per cent of total								
	78.2	82.8	78.7	80.0	76.7	79.7	76.2	79.6
Per cent distribution								
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Public	57.6	53.3	55.0	51.5	43.3	45.0	51.9	41.0
Psychopathic	0.7	0.7	0.8	0.8	0.6	0.7	2.5	0.9
Private	4.4	4.7	4.8	5.6	5.2	5.7	7.5	6.4
General with psychiatric facilities	37.3	41.3	40.0	42.1	50.9	48.6	38.1	51.7

PER CENT OF EPILEPTICS IN MENTAL HOSPITALS

Hospitals	Without discharges from general hospitals							
	1959	1958	1957	1956	1955	1954	1953	1952
Per cent of total								
		70.3	69.1	71.1	63.4	64.9	65.3	65.2
Per cent distribution								
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Public	85.1	90.8	90.0	88.5	90.8	92.0	87.8	85.5
Psychopathic	0.9	1.5	1.2	1.5	1.5	1.2	3.3	1.2
Private	14.0	7.7	8.8	9.6	7.7	6.8	9.3	13.3
General with psychiatric facilities	—	—	—	—	—	—	—	—

The proportions vary among the several kinds of hospitals. When general hospital cases are excluded, something like nine-tenths of first admissions are to public hospitals; when such are included, their proportion become far less, for the most part only a little above one-half. For psychopathic hospitals there are hardly 1 per cent, if that many. For private hospitals the proportion is about 5 per cent with general hospitals included, and several per cent more as a rule when they are not.

Of all epileptics, or those "with convulsive disorder," in institutions of any kind, some four-fifths in these later years go to mental hospitals of one kind or another—or not counting discharges from general hospitals with psychiatric facilities, two-thirds. Considerably larger proportions are found for persons in mental hospitals with "convulsive disorder" than is the case with those designated simply as "epileptic," the proportions for the one being around two-thirds as against an average of one-fourth for the other. When discharges from general hospitals are included, the proportion for mental hospitals is a few per cent more.

Any increases for the later years are doubtless in large part ascribable to the declining numbers in the special institutions. Possibly those "with convulsive disorders" are regarded to a less extent as normal or regular epileptics, or mostly as less serious cases. Such would seem more likely with respect to psychopathic hospitals. The circumstance that the number of first admissions always exceeds the number of residents would indicate that the milder cases are those most involved.

The period of time involved here is too brief to disclose any marked trends. Very likely there is an increase in the number of epileptics entering mental hospitals, something to be expected with the decreased use of special institutions for them.

The turnover in mental hospitals is greater than in special institutions for epileptics (and mental defectives). Though less than one-third of all admissions have been to mental hospitals, over one-third of all discharges have been connected with them (1951). The ratio of discharges to first admissions has been substantially greater for epileptics from mental hospitals than from the institutions, or three-fourths as against three-fifths. Readmissions have also been more frequent with mental hospitals, or over twice as great as with institutions. Fewer returns are to be expected with the former.

Chapter XXVII

PRIVATE INSTITUTIONS FOR EPILEPTICS

There have been very few private institutions especially designed for epileptics in the United States. Private institutions for mental defectives which also receive epileptics have not been numerous, hardly more than half a score at one time. They are now recorded in few more than a dozen states, most largely for mental defectives, with scarcely any for epileptics alone, and these for the most part being discontinued.

Generally in states with institutions for epileptics these must be duly licensed, for the most part with due inspection by the public authorities before operations could be carried on. With epileptics by name have been such states as Massachusetts,[1] Michigan,[2] New York,[3] Virginia,[4] and Wisconsin.[5] (In certain instances application is to diagnosis centers as well.) In addition, in states like California, Connecticut, Illinois, Indiana, Iowa, Kansas, Maine, Maryland, New Jersey, North Carolina, Ohio, Pennsylvania, and West Virginia, the provisions of the law, rather referring to the mentally defective or to the mentally ill, could possibly be made to apply to epileptics as well. In general, license has been through the state department of public welfare or of public health having charge of such matters. In practically all of the states license has been required of private hospitals in general, medical institutions, child caring agencies, charitable institutions, and similar institutions, among which institutions for epileptics might at times be included. In nearly all the states also a measure of supervision or inspection might be expected from some public body or other.[6]

In certain institutions some of the inmates or patients have been at public expense, but for the most part in exceptional circumstances. Now and then there have been donations from private sources, particularly in the case of those under religious auspices, possibly including land or buildings. The private institutions have been in general for those for whom payment was to be made by families or others in a private capacity.[7] In some instances pay might be for a life time, possibly through a trust fund.[8]

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[1] Ann. Laws § 123.33.

[2] Com. Laws § 14.850.

[3] Cons. Laws, Ment. Hyg. § 20, Pen. § 566a.

[4] Code § 37.254.

[5] Stat. §§ 58.08, 146.30.

[6] For a fraudulent institution, see *Charities*, xiii, 1904, p. 189.

A portion of the private institutions have been in the hands of private individuals, especially of physicians, conducted more or less on the order of sanitariums. Other institutions have been rather on the order of custodial institutions to an extent, on the order of nursing homes. A few have been under special boards organized for the purpose. Certain ones have been under the auspices of religious bodies, and conducted largely as religious affairs. In the last named, charges have been made only for those able to pay, these being very few in number.[9]

The institutions have been called by different names, for the most part homes, hospitals, or colonies. In most, attempt has been made to create a home-like atmosphere and environment.

The private institutions might accept children only or children and adults. The smaller number of institutions for mental defectives, as we have found, have accepted them. A portion of those received have been of other descriptions—postencephalitic, psychopathic personality, or cases involving behavior problems. Certain ones have been for females only. A tendency of later years in some has been to accept inebriates and other classes along with epileptics. Institutions in general have sought to provide treatment of both custodial and therapeutic character. Certain institutions have been rather for temporary treatment, especially for the purpose of securing control of seizures. Education might be provided for those capable of receiving it. Attention has been given to both mental and physical condition, usually with ample facilities for recreation and entertainment. Research has been carried on to a greater or less extent, including laboratory work.

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[7] Charges have varied, running from a thousand to several thousand dollars.

[8] The amounts for the purpose have varied considerably, perhaps averaging something under ten thousand dollars.

[9] The Oakbourne Hospital and Colony near Philadelphia was a merger in 1896 of the St. Clements Hospital for Epileptics and the Pennsylvania Epileptic Hospital, having received some public aid, as well as appreciable private donations. The Passavant Memorial Home at Rochester, Pennsylvania, created in 1895, has been under Lutheran auspices. The Evangelical Emmaus Homes in Marthasville and St. Charles, Missouri, are under the German Evangelical Synod. The Home at Fort Deposit, Maryland, has been under the King's Daughters, Under the Epilepsy Foundation there has been established at Leesburg, Virginia, a national children's rehabilitation center, with diagnosis, medical, psychiatric, and educational facilities for treatment.

Of all epileptics having institutional provision about 2 or 3 per cent have been found in private institutions. Of all first admissions to institutions about 5 or 6 per cent have been to private institutions, a larger proportion than in the former case because of the greater turnover in private institutions. The proportions have not varied greatly with the years. The number of inmates or patients in a single institution has been generally small, one with more than a dozen or a score being an exception. Of epileptics admitted to mental hospitals, about one-fifth or one-fourth have been to those in private hands.

There has been considerably greater turnover in private institutions than in public. In the former there has been also a somewhat shorter stay, largely no doubt for the reason that private institutions have received a smaller number of the incurable or unimprovable or of persons for whom a less lengthy residence is deemed necessary. In the private institutions there have been appreciably fewer readmissions, possibly because those released have been so much better off that return to the institution has not been called for. Both admissions and discharges here have been relatively more frequent than in public institutions, at times several times as frequent. A greater number of discharges could be expected at the private institution because of a larger proportion found fit to be discharged, perhaps already in better condition in the first place, and some helped by the greater amount of individual attention to be had at the private institution. Most discharges from the private institution have been directly from it, and relatively few as "extra-mural" cases, or on parole. There has been much less of treatment of this kind in private institutions, only about one-third or one-half as frequent as in public institutions. Transfers have involved private institutions to a relatively greater extent than they have public indicating again the relatively brief stay in the private institutions. A larger number have been from private institutions than to them, indicating the removal therefrom of unsuitable cases. Deaths seem somewhat less frequent in the private institutions, with almost none extra-mural, perhaps because of better care in some private institutions, or because those in fairly good health are likely to be received in them.[10]

In a few of the larger cities there have been what may be called centers for epileptics, interested in their general welfare, providing clinical service if needed and possibly concerned with employment (perhaps including sheltered workshops).

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[10] On private institutions, see E. N. Harris, Directory of Institutions for Exceptional Children, 1954.

Part IV

NON-INSTITUTIONAL PROVISION FOR EPILEPTICS

Chapter XXVIII

POSSIBLE EMPLOYMENT OF EPILEPTICS

Without doubt a larger number of epileptics can be remuneratively employed than is now the case. A fair proportion can do a fair day's work when given the chance. Some can do as good a job as non-epileptic persons. The matter is deserving of much greater research and study than has so far accorded it. There should be a wider exploration of the jobs that are possible for epileptics. Their potential assets need to be brought to light. (The matter of possible employment is further to be considered in connection with parole and colonies.) There is also the possibility of "sheltered" shops, somewhat on the order of similar establishments for the physically handicapped, as the blind or mental defectives, in which persons of prescribed qualifications live and work a small portion possibly under one roof, or in establishments combining living or boarding and working facilities, all under due direction. Some here could be so trained as to be able to go out and earn their living. A job training center may in some cases be advisable. Many need no special training. The more skilled the worker, the better off he is.

In the general field of employment it is to be remembered that employers are rather averse to having employees suffering with epilepsy, especially under the workingmen's compensation laws of the present day. There will have to be well-considered efforts to meet this attitude, and to overcome such objections. Workingmen's compensation laws are not always on an equitable or reasonable basis. It is also to be recognized that the public is somewhat unwilling to patronize mercantile establishments if an epileptic employee is in them. Fellow employees may have feelings of distrust when an epileptic is working alongside. Some schools decline to employ teachers with this trouble. There is always a fear of an epileptic seizure, with danger to themselves or to others. In this connection it is not to be lost sight of that what is known as automation is to play no small part in the whole situation. Of epileptics applying for jobs only the smaller number appear successful. A wide and thorough campaign of education is required here. A beginning has been made, but much is still called for.

Opinions differ as to the proportion of epileptics who can be employed. Some estimates are high, others low. Much depends on the individual concerned—his intelligence, adaptability, and preparation. Much likewise depends on his condition—the type, severity, duration, frequency of seizures, together with possible prior warnings of their oncoming. In general when manual tasks are to be undertaken, they should be of rather simple nature, not necessarily involving great skill or dexterity. In particular, tasks are preferable where there is relatively little use of moving machinery or sharp-edged tools, or proximity to revolving or unprotected machinery or to hot substances or to electric currents. Work on scaffolds or ladders or on a height or climbing of stairs is to be avoided. Operation of vehicles is to be allowed only in circumstances where one is proved competent. Work of any kind in which a fellow employee is endangered from a possible epileptic fall or otherwise is not to be encouraged. Nor is work to be subject to public gaze; nor on the other hand, in an isolated position with no other persons near. Foremen in factories should be told of one's epileptic condition. In workingmen's compensation laws, already pointed out, there should be fair and reasonable provisions for the work of epileptics.[1] Vocational training should be available, especially at day schools. Rehabilitation work with epileptics is always in order, as is also wise counseling.

Farm work or other outdoor labor is quite desirable for epileptics, with its invigorating atmosphere, and away from others' eyes. In institutions, as we have seen, much attention has been given to farm work, both for its beneficial effects on epileptic workers, and as a means of contributing to the support of the institution. In an institution there may have also been certain vocational training.

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[1] No higher rates or extra premiums should be required if the accident frequency rate for epileptics is no higher. There could well be among employers a developmental fund for the reimbursement of an employer in case of an accident arising out of pre-existing disability, as is now done to some extent.

In an inquiry among 314 employers it was found that 4 per cent would be willing to employ epileptics, 23 per cent under approved conditions, and 73 per cent not at all. National Epilepsy League, Total Rehabilitation of Epileptics—Gateway to Employment, 1962, p. 65. In a public opinion poll the favorable vote was 58 per cent in 1951, as against 45 per cent in 1945.

There are certain forms of occupation which may be quite suitable or acceptable for epileptics. Such may be the work of accountants, bookkeepers, gardeners, photographers, librarians, florists, secretaries, typists, salesmen, shipping clerks, dressmakers, interior decorators, printers, shoe repairers, and the like. In addition, with essential individual qualifications, and with due preparation, there are professions in which some epileptic persons could give a good account of themselves. In an increasing number of schools, persons with epilepsy are permitted to teach provided seizures are under control during teaching periods. Some epileptics have done well in air craft work. Civil service employment is for the most part open to qualified epileptics.

Epileptics are less subject to accidents than has been generally supposed. It has been found that accident rates are not appreciably increased when epileptics are employed. In one investigation it was found that the accident rate per 1,000 was 5.5 for epileptics, as against a general rate of 4.0, with the frequency rate 8.3, as against 7.6. In one state, of 100,000 accident cases only 9 were due to epilepsy seizures. In some industrial undertakings no accidents have been reported. It is to be remembered that epileptics at work are very careful; they are unwilling to take chances.[2] It is also to be remembered that epileptics are not generally engaged in particularly dangerous tasks. Epileptics at work should be in understanding and sympathetic surroundings.

The proportion of epileptics who might have remunerative employment has been variously estimated. By some it is believed that of epileptics of proper age, two-fifths are employable—one-fourth at regular tasks, and one-seventh at lighter. By others it is thought that half of them in otherwise good health are able to work fully, and over one-third partially, with one-fourth quite incapable. It has even been said that four-fifths may be given work if properly treated.[3] Those in employment have been found to be about equally divided among professional and business workers, clerical and skilled workers, sales and service workers and unskilled workers.

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[2] According to the Association of Casualty and Surety Companies, no higher rates are charged in general in respect to handicapped persons.

[3] In an investigation among 1000 clinical patients 73 per cent were found to be employed. *Industrial Medicine*, xi, 1942, p. 571.

Though not much in general has so far been done to advance the employability of epileptics, there are certain encouraging features in the situation. Greater consideration on different sides is now being given to the matter. Organizations concerned with epileptics, notably physicians, are making vigorous efforts for the education of the public on the subject. Some businessmen are displaying increased concern in the matter. In Federal rehabilitation programs there is an increasing place for epileptics, including occupational and recreational therapy, vocational training, consultation, guidance, placement, supervision, and follow-up, besides due mental and physical diagnosis and medical treatment—together with the supplying of tools where necessary. Social security benefits in general are available for epileptics. Provisions for them may be included under provisions for the crippled. Though there was only a slight percentage (2.1) of epileptics reported as vocationally rehabilitated under the auspices of the United States Government, these have earned several million dollars a year, as against earnings of a quarter million previously. They numbered 2211 in 1963 (as against 1682 in 1957). Per capita training costs averaged $488. By both Federal and state departments of labor it is reported that the work of epileptics compares well with that of others.[4] In workingmen's compensation laws there is increasing regard for epileptics, and with respect to dangers to and from them. As we have seen, in many states today where a worker has a prior disability, and a new injury occurs, the employer is generally liable only for the second. Such laws are reported as having worked well.

As time goes on, and with better understanding of the situation, ever increasing numbers of epileptics are finding employment, even though at a very slow rate. An enlarging number of employers are willing to take on epileptics, some large industrial establishments having a hundred or more, with their work in general regarded as satisfactory.[5] Goodwill Industries often have an appreciable number of epileptics. Special "sheltered" workshops for epileptics alone have so far had little place, they in some cases to be rather training centers, with some prepared to go outside for employment tasks. Home work with due market direction for products has certain possibilities, but so far but little developed. A very encouraging consideration lies in the policy of the Federal

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[4] See United States Department of Labor Bulletin, no. 22, 1950; no. 33, 1954 (Performance of Physically Handicapped Workers).

[5] In one industrial establishment in California only epileptics have been employed, some three score in number, with an accident rate below the average.

Government to employ epileptics so far as they are not otherwise incapacitated.[6]

Note to Chapter XXVIII.—On possible employment possibilities for epileptics, see L. Neuschultz, Jobs for Handicapped, 1956; W. H. Soden, Rehabilitation of Handicapped, 1949, p. 120; C. D. Bridges, Job Placement for Handicapped, 1946, p. 208; W. G. Lennox and S. Cobb, Employment of Epileptics, 1942; A. Bickmore, Industrial Problems and Epileptics, 1913; H. H. Kesler, Rehabilitation of Physically Handicapped, 1947, p. 168; E. Peterson, Employment of Epileptics, 1896; E. N. M. O'Sullivan, Textbook of Occupational Therapy, 1955, p. 167; G. N. Wright, Report on Epilepsy Problem (Rehabilitation Literature), 1960; J. E. Davis, Principles and Practices of Rehabilitation, 1846, p. 109; M. Udel, Work Performance of Epileptics in Industry, 1959;

New York State Interdepartmental Board, Health Resources, 1957; National Epilepsy League, Neurological Disorders and Industry, 1959; Gateway to Employment (G. N. Wright, F. A. Gibbs, and S. M. Linde), United States Department of Veterans Benefits, Pamphlet no. 236, 1960; Proceedings of National Institution Epileptic Rehabilitation, 1960; Federal Employment and Guidance Service Survey [with respect to] Hiring of Physical Handicapped, 1959; Federal Office of Vocational Rehabilitation, "Shall I Tell My Prospective Employer that I Have Epilepsy," 1962; University of Minnesota Hospital, Employment Problem of Epileptics, 1963; Group for Advancement of Psychiatry, Publications no. 36; The Person with Epilepsy at Work, 1947;

Transactions of International Congress of Eugenics 1921, i, p. 226 (Eugenics in Society and State); U.S. Office of Vocational Rehabilitation, Epileptics and Mentally Retarded, Bulletin, 1948, no. 56; 1950, no. 123; Series, no. 96 (450) and *passim;* U.S. Department of Labor, Bulletin no. 262, 1948; no. 928, 1961; President's Committee on Employment of Physically Handicapped, 1954; U.S. Public Health Service, Neurological Diseases; 75th Congress, 1st session, House, Res. 45, Hearings part ii, 1945, p. 1362; Wisconsin Study Book of Vocational and Adult Education, no. 28, 1944; Report on Wisconsin Rehabilitation Problem of Epileptics, 1957; American Epilepsy Foundation, Help for Disabled through Vocational Rehabilitation, 1960; Federation Employment and Guidance (as to) Hiring Physically Impaired Workers, 1960; Epilepsy Foundation, Underwriting and Rating of Workman's Compensation Insurance, 1964; United Epilepsy Association, Working Proposition—New Medical Methods Meet Industry for Manpower Needs, 1963; Civil Service Commission, Epileptics in Federal Service, 1962; Guide to Placing Physically Disabled, 1961; National Association of Manufacturers, Guide for Hiring Physically Handicapped, 1960.

Public Health Reports, lxxvii, 1957, p. 883, and *passim; New Jersey Public Health News,* Jan., 1952; Sept., 1954; *British Journal of Psychological Medicine,* xi, 1948, p. 141; *California and Western Medicine,* lxii, 1945, p. 9; *University Medical Magazine,* xxvi, 1942, p. 195; *Rehabilitation Literature,* xxiv, 1963, p. 172; *Conference*

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[6] In connection with Federal Vocational Rehabilitation there have been set up in several places what are known as "Epi-habs," to serve more or less along experimental lines in providing jobs for epileptics.

Board Management, March, 1948, *Epilepsia, passim; Industrial Management*, xxxiv, 1945, p. 386; *International Journal of Neurology*, Jan. 1959;

American Journal of Psychiatry, cv, 1948, p. 417; cvii, 1950, p. 257; *Nervous Child*, vi, 1947, pp. 57, 106; *Industrial Medicine and Surgery*, xxx, 1951, p. 447; *Journal of Mental Science*, xxxviii, 1892, p. 318; xli, 1895, p. 89; civ, 1958, p. 103; *Mental Hygiene*, v, 1922, p. 332; xvi, 1933, p. 177; and *passim; Economic Security Review*, xvii, 1951, p. 30; *Journal of Psychology*, xlix, 1960, p. 123; *Industrial Medicine*, xi, 1942, p. 511; xv, 1946, p. 495; xviii, 1949, p. 45; *Medical Annals of District of Columbia*, xx, 1951, p. 658; *American Journal of Public Health*, xx, 1951, p. 533; *Journal of American Medical Association*, clii, p. 163 (American Medical Association); *Archives of Environmental Health*, i, 1960, p. 257; *Practical Nurse*, May, 1930; *Factory Management*, June, 1956; *Epilepsy News*, July, 1954; *Occupational Psychology, passim; Industrial Education, passim; Rehabilitation Record, passim; Industrial Psychology, passim; Vocational Guidance, passim; Personnel and Guidance Journal, passim; Journal of Rehabilitation, passim; Occupational Therapy as Rehabilitation, passim; Occupations, passim; Occupational Education, passim.* See also Chapter on Colonies.

Chapter XXIX

COLONIES

Following the wane of the special institutions in the work for epileptics, similar has been the fate of the colony, which was an offshoot of the institution. A relatively late development, but a natural one, in the treatment of epileptics in the United States was the setting up of colonies—for those for whom special provision was called for. Here institutional procedure, though still continuing, was to be more or less reduced, and with the conditions of life somewhat simplified—life in general to be lived on a more normal basis. A special aim was to give inmates or patients wider opportunities to engage in productive toil, which was to their great advantage, while contributing materially to the support of the colony or of institution if so connected. The institution itself was to be largely the colony. With the lessening of special institutional provisions for epileptics, the colony becomes of diminishing importance, as such little to be recognized.

With epileptics there were to be special benefits in the colony, apart from more home-like surroundings and the gains from farm work. Therapeutic values were very considerable; with due medical treatment ever available the frequency and severity of attacks were likely to be reduced, with seizures more under control. In addition, patients, while here, were not exposed to the gaze of strangers. Possibilities of unhappy marriages were lessened. Undesirable contacts were avoided. Wider recreation could be afforded. General discipline was promoted.[1] There was to be increased self-respect. Inmates could sympathize with and help each other. They could feel themselves factors in the work of the colony. Happiness and contentment were to be promoted. A certain feeling of independence was to be instilled, and general morale advanced.

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[1] Special advantages of the colony have thus been indicated: "The sight of a convulsion is less horrifying (to inmates) than to other people, and they know that by other inmates they will not be scorned or ridiculed." Report of Illinois Board of Charities and Corrections, 1898, p. 72. Advantages have been thus summarized: Epileptics are made more useful; their modes of life can be better arranged; existence will be quiet and orderly; discipline can be improved; better individualization is possible. (Report of Connecticut Commission on the subject, 1895). A further statement is as follows: "The farm colony is the ideal method of treating epileptics from every point of view . . . it is desirable in justice to the community . . . and to the helpless epileptic [whom the state must protect from himself] . . . standing as he does on the border line of insanity, [he is liable to anti-social action]. *Westminster Review*, clxxi, 1909, p. 185.

The colony, furthermore, might be a proving ground to test one's fitness for parole. It might be a training school for adjustment to outside life—preparation for return to one's own community and dwelling there, a sort of "half-way house." With some, life might be so improved that their release becomes possible, unless it was felt that home environment or other circumstances might militate against their improvement. For those who must remain, the colony life provided the control and supervision that were needed.

In respect to epileptics the term "village" was possibly better than "colony," to denote the place where the epileptics were to live, giving as it did a fuller idea of its purposes and aims. It was to be self-sufficient, and the inmates were to feel that they had a world of their own. There might be a number of departments, all to be coordinated into one whole. Included were: farm, home, school, vocational center, and hospital. Farm work was not for all—only for those who were qualified and in some degree responsive.

For the village or colony land might be purchased or rented. It should be accessible, of fair or considerable size; while not necessarily the best land available, it should be cultivable, and not too expensive. Within the farm were to be woodlands, orchards, dairy sections, livestock areas, gardening. A farmhouse, if in good condition, might be the nucleus of the colony. If additional buildings were called for, they should be on the cottage system, with a larger assembly structure. There should be facilities for recreation, entertainment, education, and hospital service. The colony should make an approach toward self-support. Possibly some of the produce might be sold in the market. In certain cases the colony might be able to hire out some of its inmates, to neighboring farmers, with all business arrangements being made through it, and it exercising more or less supervision over the matter. Outside contacts in general, were to be encouraged and promoted. There was some enthusiasm over the colony idea.

As with institutions for epileptics in general, so with colonies; they are more and more being given over for the reception of other classes as well, as alcoholics, something already noted. As also previously observed, with the improved therapeutic treatment of epileptics there will be larger numbers of epileptics to remain in their own homes or communities, with less need of departure to an institution or colony. Segregation of epileptics is in large measure passing out.

NOTES TO CHAPTER XXIX.—On colonies for epileptics see J. Sutter, Colony of Mercy, 1901; W. H. Suden, Rehabilitation of Handicapped, 1949, p. 120; W. G. Lennox and H. Cobb, Epilepsy in Children, 1948; J. S. Clarke, Disabled Citizens, 1951, p. 53; R. F. Hibberd, Are Epileptics Employable, 1945; W. M. Bevis, Colony Care of Feebleminded and Epileptic, 1919; W. T. Shanahan, Colony for Epileptics, 1912;

H. B. Crutcher, Home Care for Mental Patients, 1944; E. Peterson, Colonization of Epileptics, 1908; Group for Advancement of Psychiatry, Persons with Epilepsy, 1957; Bulletin of American Academy of Medicine, 1891, no. 9; 1896, p. 663; National Committee on Provision for Feebleminded, Massachusetts, 1916, no. 7; Bulletin of Ohio Hospital for Epileptics, 1898, p. 66; Proceedings of National Society for Employment of Epileptics (London), 1903; Proceedings of Alienists and Neurologists, 1917, p. 13; Proceedings of Minnesota Conference of Charities and Corrections, 1903, p. 50; Report of Craig Colony, 1906; Bulletin of General Information, 1881, p. 325; 1894, p. 189; 1897, p. 63; 1913, p. 257; Proceedings of New York State Conference of Charities and Corrections, 1897, p. 265; Transactions of Michigan Medical Society, 1895, p. 446; Proceedings of National Association for Study of Epilepsy and Care and Treatment of Epileptics, 1904, p. 167; 1905, p. 167; 1906, p. 162; 1907, p. 167;

Charities Review, vi, 1897, p. 469; *Outlook*, xciv, 1910, p. 585; *World Today*, xx, 1906, p. 890; *Review of Reviews*, xxi, 1900, p. 313; *Contemporary Review*, lxii, 1892, p. 683; *Popular Science Monthly*, xlii, 1893, p. 663; *Current Literature*, xxviii, 1900, p. 291; xxxv, 1900, p. 605; *Mental Hygiene*, x, 1926, p. 787; *Medical Record*, iii, 1887, p. 463; *Journal of Nervous and Mental Diseases*, xvi, 1889, p. 753; xix, 1892, p. 627; xxxiii, 1936, p. 78; *Virginia Medical Monthly*, xxi, 1895, p. 477; *New York Medical Journal*, lviii, 1892, p. 96; *Journal of American Medical Association*, xl, 1903, p. 154; *Journal of New Jersey Medical Society*, xxxiii, 1936, p. 78; *Texas Medical Journal*, xvi, 1942, p. 89; *Hospital Management*, xlv, 1938, p. 72; *Modern Hospital*, xi, 1918, p. 364; *Journal of Mental Science*, xxxviii, 1892, p. 212; xlvii, 1901, p. 632; lxiii, 1916, p. 151; lxxxv, p. 953; *Industrial Education*, xxiv, 1922, p. 123; liii, 1950, p. 501; *Occupations*, xxix, 1950, p. 54; *Occupational Therapy (and Rehabilitation)*, xvii, 1938, p. 301; xxvi, 1947, p. 172; *California Medicine*, lxxxviii, 1958, p. 160; *American Journal of Public Health*, xlvii, 1957, p. 583; see chapter on Employment; also Reports and Bulletins on Institutions.

Chapter XXX

PAROLE

At one time, in part along with the colony, there had come into being a notable phase in the work of institutions for epileptics, outside the institutions proper, one that has had increasing use as well in other forms of welfare work, particularly with the mentally ill and with prison convicts. It has been known as parole—sometimes as after-care, and more generally as extra-mural—whereby persons who have been confined to institutions for a greater or less length of time, and for whom the plan is suitable, have been allowed to leave and to remain absent from its bounds, but under its careful supervision—what could perhaps best be called conditional release. With the decreasing institutionalization of epileptics, like the colony, it belongs rather to the past; it has little place in the work for epileptics today.

Parole is a type of care in which is tested the ability and the inclinations of the patient or inmate to adjust himself to the normal life of the community in the outside world. It is to be likened to the out-patient arrangements of a hospital for the sick, or the system in wide use with penal or correctional institutions. It is of like kind with what more or less goes under this term in institutions for the mentally ill. It also somewhat resembles placing out, as practiced in orphanages and other institutions of this order. It was to be carried out under "parole officers" or field agents or social workers. It involved follow-up work or social service extended to the home or community.

Parole also has had the advantage of releasing a number of patients or inmates from the institution, thus making room for others in their place. As parole was considerably less expensive than institutional care, there might be much saving in the cost of institutions. This factor, however, was not to be carried too far, as proper parole required properly qualified supervision.

Under the system of parole there have been permitted to remain out of the institution, but always subject to its control and direction, those persons who had been found fit for such treatment, or who could give promise of a successful life away. A particular qualification has been the ability to do some work around the home or farm, or at any rate assurance that one would give little trouble or could be properly taken care of outside. The test has lain in one's competence to make adjustment away from the institution. With some a consideration has been the possibility of remunerative employment after departure from the institution. Parole has not been for those who could not be expected to get along outside the institution, or who might prove troublesome or dangerous at home or in the community, or for those in general who would fare ill away from the protecting arms of the institution, or who would be without family or friends or some agency to be responsible for them. Accessibility to educational advantages would have consideration for those so fitted.

If parole appeared successful, there was to be permanent discharge from the institution; or persons on indefinite parole might be regarded as discharged—though in either case they were to be subject to return to the institution, it retaining its oversight and authority over the released person, with power of recall if all had not gone well, and with the resumption of institutional treatment. Some local social service agency might well cooperate in dealing with epileptic parolees.

Colony treatment (already considered) might often be regarded as a suitable preliminary to parole, in case such colony arrangements were at hand. It might well be looked upon as a stepping stone or "half-way house" in that direction. The colony might, as we have seen, determine one's fitness for parole. Colony and parole should be linked together as far as possible.

There might well be in some cases, furthermore, temporary visits or trial periods with one's family or with others in position of responsibility, before formal parole was to be authorized. Absences or vacations from the institution should be of progressive character until eventually the full stage of parole was reached. Policies of institutions have differed as to the return of parolees, these in some cases being regarded simply as returned inmates, and in other cases as actual readmissions. In some states one who has done well on parole for a year or more was to be automatically discharged. Parole has in a limited way been known in America for some years, but it has had its most frequent use and fullest development in the years of the twentieth century.

For the most part parole might be said to have been successful where tried, particularly in cases that have been suited or fit for it, and where there has been proper supervision or field service. There have been on the whole few complaints of abuses of the system or of misbehavior of those on parole. Escapes or attempted escapes have not been numerous.

The proportion of the institutional population on parole has varied greatly among the different states; for the country as a whole it has been about one-ninth of this population. Certain states have been entirely without such parole, though the proportion in general for a time seemed to be steadily growing. It has been afforded to males somewhat more than to females, evidently regarded as more suitable for the former. The practice has been almost unknown in private institutions. The extent to which parole has been allowed has depended in some measure on the extent of institution overcrowding, the extent and efficacy of the methods of therapy, and the extent to which social workers or parole officers have been available outside the institution.

With the institutional treatment of epileptics declining as it is now doing so steadily, the matter of this parole from institutions has, as we have noted, correspondingly less place.

What is known as "family care"—placing in a private home, not one's own, or in a foster or boarding home—has seldom or almost never been the case with epileptics—in some years there having been none at all or only a fraction of one per cent. Most families have been unwilling to accept epileptics in this way, even the milder cases. Besides, there could not well be expected the full nursing or medical attention that has so often been necessary. Parole as formerly understood belongs to an earlier day, to a day before de-institutionalization had set in. As such it is of but little consideration or consequence today.

"Extra-mural" is now the prevailing conception and the term employed. It may cover different things—trial visits home, family care, temporary vacations, work leave, or other occasion for absence. Another means of departure is in escape or run-away or "unauthorized leave", if such should occur. "After-care" is a term that has been used to take the place of "parole."

Part V

ORGANIZATIONS CONCERNED WITH EPILEPTICS

Chapter XXXI

ORGANIZATIONS CONCERNED WITH EPILEPTICS

In 1898 was organized the National Association for the Study of Epilepsy and the Care and Treatment of Epileptics. It was for the purpose of "promoting the general welfare of sufferers from epilepsy and of securing statistical study cases and methods of cure of this disease, of assisting the various states in America in establishing a uniform system of care of epileptics, and of advocating the care of epileptics in institutions designed for their special needs."[1] It and like bodies were also to foster research into the causes of epilepsy and the treatment of epileptics, to disseminate information on the subject and to educate the public, to promote local clinics, to secure improved personnel for institutions, to increase the industrial opportunities for epileptics, to cooperate with welfare, educational, and other agencies in the interest of epileptics, and to secure desirable legislation. This body was composed largely of specialists in the field of epilepsy and of medical officers of institutions. Branches were set up in certain of the states.

In 1909 was organized the International League against Epilepsy. In 1936 was formed the American branch of this League, known as the American League against Epilepsy, becoming in 1957 the American Epilepsy Society, composed largely of physicians. In 1939 was set up the Layman's League, in 1944 becoming the American Epilepsy League. In 1940 was created the National Association to Control Epilepsy. In 1949 the two bodies last named were united into the National Epilepsy League. About this time there came into being the United Epilepsy Association, made up of the Epilepsy Association of New York (1946), the Committee for Public Understanding of Epilepsy, and the Foundation to Control Epilepsy (Variety Club).

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[1] See Proceedings, 1906, p. 146.

In 1954 was formed the American Epilepsy Federation. About the same time was created the Federal Association for Epilepsy, later the Epilepsy Foundation. (The latter provides a center for the institutional treatment for a certain number of epileptics.) In 1965 there was an amalgamation of the National Epilepsy League, the United Epilepsy Association, and the American Epilepsy Federation, under the name of the Epilepsy Association of America.

Over the country there have also been regional, state, and local organizations, including the Western Institute in Epilepsy. There is a World Federation on Epilepsy, and an International Bureau on Epilepsy. Some of the national bodies have local or state branches or affiliates.

By the American Association for Research in Nervous and Mental Diseases in cooperation with the bodies just named, there has been research in this field. Such is the case also with the American Academy of Neurology, the American Neurological Association, the American Academy of Clinical Psychiatrists, the Group for the Advancement of Psychiatry with Children, the National Society for Crippled Children and Adults, and the National Committee for Research in Neurological Diseases.

Besides the National Institute of Mental Health under the Federal Department of Health, Education and Welfare, there has been created the Institute for Neurological Diseases and Blindness which is concerned in part with epilepsy, including the carrying on of research in general, with research centers over the country. Other Federal agencies concerned are the Vocational Rehabilitation Administration and the Veterans Administration. Certain Social Security provisions may have application where disability is involved. Likewise concerned is the Department of Labor, together with Employment Security.

Government agencies more or less involved with the matter of epilepsy include the Children's Bureau, which may extend to them its services to the crippled, and those having to do with programs for child welfare and family service, maternal and child health, public assistance, families of dependent children, aid to the blind, old age assistance, those permanently and totally disabled. Amounts devoted to such work increase with the years. Centers are encouraged and aided with respect to research, employment facilities, community programs, and the like.

Interest in the work for epileptics is taken by certain private general bodies, especially those concerned with mental health (notably the National Association for Mental Health), with psychiatry, with mental defectiveness, and with crippled children (some having special sections dealing with epileptics). One organization on epileptics has been amalgamated with the American Psychiatric Association, as a section on Convulsive Disorders. Medical bodies in general are deeply interested; in the American Medical Association there is a section on nervous and mental diseases. Such is the case also to a greater or less extent with bodies concerned with social work, health, nursing, education, recreation, child welfare, and psychology. Work for epileptics is included in the International Council for Exceptional Children and the International Congress on Neurology. In certain of the bodies just named, there have been special divisions on mental disorders. In community welfare organizations in some cities work for epileptics is included.[2] Workshops in respect to epileptics are afforded in a few places, including universities. In programs for crippled children place may often be found for epileptics.

From 1901 to 1911 there was published the Transactions of the National Association to Control Epilepsy and the Care and Treatment of Epileptics. "Epilepsia" (Journal of the International League Against Epilepsy, and with the American Epilepsy Society), was published as its official organ from 1909 to 1915, from 1933 to 1946, and then from 1951 to 1954, and now after 1959. In 1959 was published "Green Light" by the National Association to Control Epilepsy. By the National Epilepsy League has been published "Horizon," and by the United Epilepsy Association "Let Live" or "Epileptic News." By the American Epilepsy Federation has been published "The Voice of Epilepsy" (EPI-VOX). By the Epilepsy Association of America is published "The Spokesman." Periodicals like "American Journal of Psychiatry," "Mental Hygiene," "American Journal of Mental Deficiency," "Mental Retardation" and various nervous and psychological journals have a place for the subject.[3]

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[2] In 1959 was created in New York the Baird Foundation Clinic, in 1955 taken over by the Epileptic Center. There have been notable neurological institutes in certain cities as New York and Chicago. At Johns Hopkins University there is a special epilepsy clinic.

[3] Moving pictures are at times used to educate the public.

Part VI

CONCLUSIONS WITH RESPECT TO WORK FOR EPILEPTICS IN THE UNITED STATES

Chapter XXXII

CONCLUSIONS WITH RESPECT TO WORK FOR EPILEPTICS IN THE UNITED STATES

We have now concluded our study with respect to the state of epileptics and their treatment in the United States. We have been dealing with those in one of the saddest plights among the sons of men, under a handicap of both mental and physical nature not paralleled elsewhere. We have seen that after long years, dwelling under a cloud of misunderstanding, public apathy, suspicion, mistreatment—avoided, shunned, dreaded by their fellow men—we may be on the eve of new attitudes and new policies for them in our society, though we realize that we shall have a long way to go before we have anything at all in keeping with their needs and demands.

Our first consideration in dealing with those suffering under epilepsy has to do with the possibility of the prevention or the greater or less reduction of this affliction in the human race. There exists here a vast field for medical, psychiatric, and neurological research, for research along both physical and mental lines. Epilepsy from disease and from accident, as well as what is of possible hereditary origin, is to be carefully and broadly studied. In the constant advance of medical science we cannot but hope that in time we will know far more regarding this dread disorder than we now do, and that with the passing years further means of relief or of cure or of prevention will appear before our eyes. Already in some quarters research is definitely under way, to be extended, we may hope, over ever widening areas. Already there have been fruitful results, affording high promises toward the control of much of the disorder. Certain drugs to an ever increasing extent are proving helpful, at least in controlling seizures; they are beneficial and efficacious.

In an immediate program in our dealings with epileptics not alone are neurologists and psychiatrists to be concerned—and psychologists along with them. In general all health agencies are to have a part in the matter. The public, too, is to recognize the disorder in its several bearings. Where cases are found, report should promptly be made to the proper health or other authorities. Clinical and hospital resources should be available everywhere for those in need of therapeutic attention, with follow-up action as may be required. Traveling clinics should have a wide place in our programs, especially in regions where hospitals and other clinical facilities are lacking or restricted. Medical practitioners in general should have some neurological study. In institutions, if epileptics are to be so placed, there are to be the fullest therapeutic facilities. Initial attention to the matter of epilepsy is to be set down as a public health program, somewhat on the order of tuberculosis. (Its incidence is somewhat the same as for this disease and for diabetes.) In the work of public health nurses, epileptics should have due regard. From central stations drugs should be available for needed cases. In short, for epileptics there should be universally early diagnosis and adequate therapy.[1]

With respect to etiological factors in epilepsy it may be said that heredity plays but a limited part. It may not be so much that epilepsy is directly transmitted, but often rather a predisposition or tendencies in that direction, which may under certain circumstances result in epilepsy. Even if parents are without some neurotic or similar condition, it may be in evidence in relatives in some such trouble. There is no doubt that families may be affected, and that in some instances the disorder passes from one generation to another. Epilepsy or a condition leading thereto in near or distant forebears may be latent, not showing itself in a given generation, but liable to manifest itself in a later one. It is just possible that consanguineous marriages have some effect on the matter, in case both parents are affected there being now intensified possibilities of the disorder being transmitted; but this effect on the whole appears to be slight. Much of epilepsy is traceable to non-hereditary factors.

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[1] Research is to be encouraged and promoted with respect to "structure, chemistry, and functions of the cellular components of the nervous system, their interrelationships in health and disease, and various matters in which their processes can be altered or controlled." U.S. Department of Health, Education, and Welfare, "Epilepsy," 1965.

As a remedy to control the possible passing on of epilepsy, there has from time to time been suggested a measure known as sterilization of potential parents, with some of the states authorizing measures of this kind. Possibly in certain selected cases when there is plain mental defect there might be advantage here; but on the whole there would be little efficacious result. Our knowledge of the subject is highly limited, especially as to those on whom there should be operations. Segregation in institutions would no doubt have some effect on this aspect of the situation, though special institutions for epileptics are now passing from the scene. Our present and most immediate hopes in the matter lie in the continued research efforts just pointed out.

The costs of epilepsy to society are serious. The very definite figures we have had are those relating to public institutions for epileptics. The annual cost of these in a recent year we have found to be well over $50,000,000—though a cost now being fast reduced. The cost of private institutions and of day school facilities would add to this. Besides all the costs of therapeutic measures, of clinics, of research, of care in the home, of court procedure, of general hospital and mental hospital treatment, and of various other matters would come to a quite sizeable sum. All this could hardly be less than seventy-five million, perhaps over a hundred million dollars.

To be considered no less is the economic loss to the community during the absence of large numbers of epileptics from its potential wage-earners. Let us assume that there are, conservatively speaking, a million epileptics in the United States, with about three-fifths between twenty and sixty years of age, or some 600,000. By no means all of these are employable, some having other infirmities, and some women being housewives at home. If we take two-fifths (an estimate sometimes made), as employable we have something like a quarter million who might have profitable occupation. If the average wage is thought of as $5000, then we find something well over a billion dollars as the potential earnings of epileptics, or the amount that is lost through the existence of epileptics in the United States. (From this sum is to be deducted the earning of these epileptics actually employed at present, the amount of which we do not know.) Total costs for epileptics, direct and indirect would be hardly less than one and a quarter billion dollars. This figure cannot, of course, be substantiated, but it may give some idea of the total costs.[1]

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[1] On costs of epileptics, see W. G. Lennox, Science and Seizures, 1946, p. 23; T. J. Putnam, Convulsive Disorders, 1943, p. 3; *New England Medical Journal*, ccix, 1938, p. 92.

But what has just been given does not represent the complete costs of this affection—and of non-material nature. A large part of the costs cannot be measured in money—to families, friends, neighbors, welfare agencies, health agencies—and above all in what those having it have to suffer.

Old feelings about and toward them, though much modified of recent years, have in considerable part remained. Entrance of epileptic children into schools has often been of an embarrassing nature, and their educational progress has been hindered. Marriage has, in a number of states, been forbidden by law, as with mental defectives and the mentally ill. In certain states sterilization laws have been made to apply to epileptics, as with the two classes just mentioned. In many states epileptics have not been allowed to drive automobiles, unless possibly with proof that they have not been subject to seizures for some time. They have had difficulty in securing jobs; efforts have had to be made to convince employers that many of them can do work quite acceptably.

A special phase of the concern of society in the epileptic population is to be found in the treatment of them by the law. There is considerable confusion here, as well as more or less misapprehension of the nature of epileptics, with epileptics often embraced with the mentally ill or with the mentally defective; or with "incompetents" in general. Though the law touches them only in limited areas here, it affects both themselves and the public. Although to some extent there are laws for their benefit or protection, such laws as those relating to marriages or sterilization when there is no mental defect involved are quite out of order; they are quite outmoded. The whole matter is in need of thorough examination, which should be in the hands not only of the law-makers but of neurologists and psychiatrists and of those in close touch with epileptics, who are to have important words to say. In popular accounts today (including magazine indexes), and in legal literature as well, epileptics are often given an unhappy classification, or linked up with the mentally affected. (The laws as to immigration might well be overhauled.)

When we come to examine the condition of the epileptics who are with us, we are confronted at the outset with the unhappy fact that we do not know how many there are in the United States; nor have we any sure means of ascertaining. We are in great need of some sort of an enumeration. We need to know not only the numbers that there are, but also to have a diagnosis of individual cases, including a study of etiological factors, family backgrounds, community environment, educational and industrial capabilities, and the like. As already indicated, report of all cases when discovered should be made by families, physicians, social welfare agencies, or otherwise to some central authority. A full registration of all cases should be maintained.

As to the number of epileptics in the United States there are various estimates, as we have seen. There are probably well beyond one million persons given to convulsions at one time or another. Some would set the number of epileptics down as considerably more, perhaps twice as many.

In our treatment of epileptics, next after medical attention should be consideration of their home environment. Families should be given counsel and instruction as to how to deal properly with epileptic members. This may be done to some extent by the clinics to which they resort or by local social service workers (who themselves should have some acquaintance with the subject). Agents from mental health departments, state or local, may render distinct aid here. If there is a state institution receiving epileptics, it too may take a hand. The aim should be to make epileptics in their homes as happy and comfortable as possible, with constant therapeutic attention.

In our program to deal with epileptics early attention is to be directed to those of school age. If such children can be accommodated in the regular schools along with normal children, well and good. There should be appeal to educational authorities to extend regular schooling to as many epileptic children as possible or to secure proper action in this direction. In the larger cities special classes may be provided if deemed desirable. Understanding of the situation should be made clear to all, including schoolmates.

For those epileptics who are in need of protracted medical care and treatment, or who have other defects, and for whom home conditions are not conducive to good results, there should be institutional provision. Admissions should be voluntary for those who recognize the need of such treatment, and are willing to act and abide by institutional regulations—though possibly under judicial direction. In case one is in a deplorable condition at home or is dangerous in some degree to others as well as to himself, or refuses to enter an institution when advised to do so, commitment proceedings are in order. These should be entirely free from any criminal implications. They should be on the petition of family, relatives, friends or guardians. If these should fail to take needed action, then the proper officers of the law should be empowered to act. There should be full medical, psychiatric and psychological attention in deciding what is best to be done. The institution that may be concerned should have a word to say as to admission and holding.

In the placing of epileptics in institutions there is definite need of their proper classification with respect to mental status and other considerations. When at all possible, epileptics who are mentally sound and are in need of institutionalization should be in institutions of their own, though sometimes for administrative reasons or supposed economy it is thought best to place them in institutions with other classes. They thus may have to have institutional association with classes quite different from themselves; these associations may at times be a bitter cup to them, with further misconceptions regarding them on the part of the public. Of later years special institutions for epileptics have been allowed to take in such persons as inebriates and others, or neurological and psychiatric cases in general. Epileptics who are mentally ill also may be placed in an institution for the mentally ill, but in separate quarters, with as little contact as possible with each other, something not good for either. Epileptics who are mentally defective may be placed in institutions for mental defectives, but again with separate quarters as far as possible. With greater or less control of seizures in an increasing number of cases, and with proper home conditions, institutionalization of any kind will have reduced recourse and will have little part in our dealing with them.

Institutions, if epileptics are to be placed in them, should be under the state department of mental hygiene, something that is the increasing tendency. If not, its relationship is with the department of public welfare. There should be cooperation where necessary with educational, correctional and general welfare agencies.

It is good to note again that institutional provision becomes less and less essential and less and less necessary. Epileptics can now for the most part remain in their own homes and in their own communities, having their life on the normal order.

The institution for epileptics if it exists should not contain too large a number of patients. If too large, there cannot be the individualized treatment that is so necessary. It should be on a farm of considerable size, with attention to a wide agricultural program, including farming, gardening, dairying, orcharding, live stock raising. Residents at all qualified should engage in this beneficial outdoor employment. Much of the cost of upkeep of the institution can be thus derived. Buildings should be of the cottage type, except such places as assembly halls and the like. Educational facilities should be provided for all who can profit from them. There should be ample facilities for recreation and entertainment. Outside contacts are desirable for some. Proper hospital treatment should be the first consideration in the life of the institution. A trained staff is indispensable for good results, including psychiatrists and psychologists and nurses.

The institution is not to confine its work to those within its precincts. It should at least be acquainted with all epileptic cases in its territory, and as far as possible be in touch with them. It should have some part in preliminary investigations as to one's coming to it. It should be prepared to advise families as to the proper treatment of its epileptic members. It should be concerned in providing outside clinical facilities.

The small number of private institutions that receive epileptics are capable of doing good work, especially through their research and laboratory facilities, and greater individualized attenton. All private institutions should be under state license, inspection, and supervision.

The colony plan in connection with the institution was once regarded as a very desirable one, and highly welcome. In fact, the institution itself was to be of the nature of a colony. Here there were to be afforded outdoor life, with all its beneficial effects for mind and body. Patients were removed from the world and its gaze. They could contribute substantially to the support of the institution. The colony was also to be regarded as preparatory to parole, a stepping stone thereto.

An important part of the work of institutions, especially of later years, though in still later years on the wane with the passing of its parent institution, has been what is called parole, the placing outside of those patients who could get along fairly well outside, but under its supervision. Here they might be given evidence that they were no longer in need of institutional care and treatment. If they continued to do well outside, the "leave of absence" from the institution became permanent. If, on the other hand, they were found not to get along well outside, they could be returned to the institution. With the decline of institutional care of epileptics both the colony and parole treatment have become of little consideration, much of a hang-over from earlier attitudes. Their place has been taken by "extra-mural care," of more than one type, if such should still be called for.

Placing out or boarding out epileptics in private homes or the use of foster homes, something not promising at present, needs more looking into than has been the case. So far very few have been thus affected. Few families seem to care to take in epileptics; nor could they always be assured of the proper medical and nursing attention they need.

Though in past years the bulk of attention to epileptics has been in the direction of the institution, there are other considerations that are now to have larger place. Among all who are concerned with epileptics a very great need is felt to be their employment on a far larger scale than is now the case and preferably in a local environment. Their employment capabilities should be more widely inquired into; there should be fuller exploration of the field, a more complete job analysis. There is little doubt that epileptics could be employed to a much greater extent if their potentialities as well as their limitations were recognized, and there was less fear of unhappy experiences in their employment. There is high need of education of the public on the subject. It is comforting to know that there is an increasing number of employers who are willing to take epileptics, though the number is increasing far too slowly. Proper and fair provision in workingmen's compensation laws to apply to epileptics is also something distinctly called for.

A wide program with respect to epileptics—apart from institutions, but including local and traveling clinics, social workers (especially medical social workers), promotion of industrial employment, discussion workshops, research in general—will cost money. Society must see where true economy lies here.

One very important result of newer attitudes and policies toward epileptics lies in the reduction if not abandonment of the conception of institutionalization, something that has long been felt necessary for them, and may still be necessary for some, especially those with some distinct mental trouble, and lacking proper home surroundings. As a result of ever better therapeutic measures, more normal life in the home and in the community is assured for ever larger numbers.

A particular grievance of epileptics, let us point out once more, is their confusion in the public mind with mental disability—the belief that epileptics are for the most part of low intelligence, with a large portion "incompetents" or on the order of mental defectives—something true of a certain portion, but not by any means of all—the one frequently associated with the other in popular thought, an association sometimes receiving strength from the earlier bringing together of the two classes in the same institution in many of the states.

In keeping with a program of education for the benefit of the public, the foremost need with epileptics is a better and fuller understanding of their condition and of their wants, with a more sympathetic and kinder frame of mind toward them. Loud is the challenge coming to us.

Too long have the epileptics suffered from public opinion that they are generally an abnormal lot and outside the common standing of men. Too long have they suffered from misunderstandings and misconceptions on the part of their fellow men. Too long have they been subject to embarrassment and mortification in their homes and in their communities because of the affliction visited upon them by the partial hand of nature. Too long have they had to face an uncomprehending and unfeeling world. Too long have they had to stand misconception and misuse. Attitudes of the public toward them may at times be almost as hard to bear as their affliction itself.

It will be a great boon to epileptics not only when they receive the therapeutic treatment they need and deserve, but when unfair and gross miscomprehensions are stricken from the public mind, when there is clearer understanding of their position and difficulties and possibilities, when it is realized how distinctly human they are, when society sees that no burdens or hardships are inflicted upon them beyond what they have already been called upon to stand.

A better day is arriving, but not nearly as rapidly as could be wished. But brave hearts are at work in the cause, ever striving to bring relief to the sufferer, ever seeking to make the public understand and to give epileptics a fairer deal. Let us fervently hope that the epileptics of our land are to have a happier day than they have ever had before in the history of the world.

Let us also with no less fervor look to the time when in due season their peculiar affliction will be only of the past.

APPENDICES

Appendix A

HABITS AS TO TEMPERANCE AMONG EPILEPTICS

In the following table is given the percentage distribution of first admissions of each type of epileptics to public institutions, according to habits of temperance (1933).

PER CENT DISTRIBUTION OF EPILEPTICS ACCORDING TO TEMPERANCE HABITS

Habit	Total	Symptomatic	Idiopathic	Unclassified
Total	100.0	100.0	100.0	100.0
Abstinent	78.5	82.0	83.0	60.9
Temperate	9.0	8.7	18.4	7.6
Intemperate	3.0	4.1	2.5	2.6
Unclassified	9.5	5.2	4.1	28.1

According to the statements made—doubtless largely those of families of the persons concerned—epileptics are pretty much a sober lot, so far as there is reference to those coming to institutions. Practically four-fifths are abstainers from the use of intoxicating liquors. Together with those who describe themselves as temperate, practically nine-tenths are not given to the use of liquor to any notable or considerable extent, or indulge only moderately—much less than is the case with the general population. Only three per cent are to be set down as intemperate. The proportion intemperate is much higher for males than for females. The proportion for symptomatic epilepsy is higher than for idiopathic.

In the following table are given general figures for 1923.

PER CENT DISTRIBUTION OF EPILEPTICS ACCORDING TO TEMPERANCE HABITS

	Total	Male	Female
Total	100.0	100.0	100.0
Abstinent	75.8	66.8	83.3
Temperate	8.4	15.7	2.7
Intemperate	3.2	14.8	0.6
Unclassified	12.4	12.7	13.4

Appendix B

PER CENT DISTRIBUTION OF EPILEPTICS BY CLINICAL DIAGNOSIS (1955)

	Public Institutions						Private Institutions		
	Residents			First Admissions			First Admissions		
Clinical Diagnosis	Total	Male	Female	Total	Male	Female	Total	Male	Female
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Symptomatic	40.0	42.3	37.8	54.6	54.2	55.0	43.4	51.8	37.0
Toxemic exogenous	4.6	4.9	4.3	2.5	1.2	—	—	—	—
Toxemic endogenous	5.0	4.3	5.7	1.3	1.4	1.2	1.9	—	3.8
Due to brain disease	22.8	24.8	20.8	52.2	50.7	52.8	13.0	14.8	18.1
Cardiovascular	—	—	—	1.4	1.0	1.7	—	—	—
Meningo-encephalitic	—	—	—	12.9	10.0	13.8	—	—	—
Traumatic	—	—	—	16.4	18.4	14.4	—	—	—
Ageneses	—	—	—	25.0	27.2	20.1	—	—	—
Unknown	—	—	—	5.4	4.2	0.6	—	—	—
Unknown	8.6	8.3	9.1	1.2	1.4	0.9	29.6	37.1	22.2
Idiopathic	34.9	33.6	35.7	32.0	30.5	33.5	28.3	29.6	37.0
With psychogenic factors	—	—	—	9.3	9.5	8.9	—	—	—
Other and unknown	—	—	—	23.0	20.9	25.0	—	—	—
Unclassified	25.1	24.1	26.5	13.2	14.8	11.6	22.5	18.9	26.0

Per Cent Distribution of Epileptics by Clinical Diagnosis (1951)

Clinical diagnosis	Total	Male	Female
Total	100.0	100.0	100.0
Symptomatic	40.9	41.3	40.7
Toxemic exogenous	1.9	2.8	1.6
Alcoholic	0.3	0.3	0.2
Lead	—	—	—
Unknown	1.6	1.8	1.0
Toxemic endogenous	1.7	1.6	2.0
Renal	0.2	0.1	0.2
Pregnancy and puerperal disorders	0.2	—	0.2
Endocrinopathic disorders	0.4	0.3	0.4
Metabolic disorders	0.2	0.1	0.2
Unknown	0.8	0.8	0.8
Due to brain disease	32.5	33.5	32.3
Cardiovascular	0.6	0.6	0.5
Syphilitic	0.4	0.2	0.4
Meningo-encephalitic	5.4	5.7	5.3
Neoplastic	0.5	0.6	0.2
Traumatic	7.6	7.9	7.2
Ageneses	7.8	6.9	10.1
Other and unknown	10.4	12.0	8.7
Unknown	4.6	3.8	5.2
Idiopathic	53.2	51.8	55.5
With psychogenic factors	7.3	6.8	7.8
Other, undifferentiated, and unknown	45.9	45.0	47.8
Unclassified	4.7	7.0	4.0

Appendix C

Per Cent Distribution of Epileptics Discharged as Improved According to Length of Time in Institution (1923)

Total	100.0
Less than 3 months	13.6
3-6 months	17.6
7-11 months	15.9
1 year	21.8
2 years	7.9
3 years	8.5
4 years	5.9
5 years and over	8.8

Appendix D

RATIO OF EPILEPTICS IN INSTITUTIONS IN DIFFERENT STATES

United States	4.1	Missouri	9.5
Alabama	10.2	Montana	6.7
Alaska	—	Nebraska	—
Arizona	—	Nevada	—
Arkansas	—	New Hampshire	1.9
California	—	New Jersey	3.7
Colorado	0.9	New Mexico	2.3
Connecticut	24.1	New York	13.0
Delaware	13.7	North Carolina	0.0
District of Columbia	0.0	North Dakota	—
Florida	3.9	Ohio	2.0
Georgia	0.0	Oklahoma	4.0
Hawaii	—	Oregon	4.0
Idaho	11.3	Pennsylvania	—
Illinois	0.0	Rhode Island	4.4
Indiana	20.8	South Carolina	2.5
Iowa	14.5	South Dakota	29.5
Kansas	4.6	Tennessee	2.2
Kentucky	0.0	Texas	—
Louisiana	—	Utah	5.0
Maine	0.0	Vermont	0.0
Maryland	0.0	Virginia	13.7
Massachusetts	31.7	Washington	—
Michigan	21.2	West Virginia	2.9
Minnesota	—	Wisconsin	0.0
Mississippi	0.0	Wyoming	19.0

Appendix E

PER CENT DISTRIBUTION OF ADMISSIONS ACCORDING TO AGE AND CLINICAL DIAGNOSIS (1956)

		Symptomatic						
Age	Total	Total	Toxemic exogenous	Toxemic endogenous	Due to brain disease	Unknown	Idiopathic	Unclassified
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Under 5	1.0	1.8	—	0.2	3.0	0.2	0.2	1.0
5-9	5.0	7.8	2.8	5.7	10.8	2.8	3.4	3.2
10-14	8.4	11.7	7.8	6.5	15.1	5.8	5.5	6.8
15-19	10.3	12.0	10.0	11.8	13.1	9.8	9.2	8.6
20-24	10.1	10.9	15.0	11.6	10.7	9.9	9.7	9.1
25-29	10.6	9.8	10.4	9.7	6.8	9.6	11.6	10.0
30-34	9.8	9.1	10.6	10.2	8.3	9.9	11.1	8.8
35-39	9.2	7.8	9.0	8.1	6.8	10.6	10.8	9.3
40 and over	33.4	29.8	34.4	36.7	21.7	40.7	39.6	32.7
Unknown	1.7	2.3	—	0.2	3.7	0.5	0.2	10.6

Appendix F

ADMISSIONS TO AND SEPARATIONS FROM INSTITUTIONS

In the following table is given the percentage of admissions to and separations from institutions for epileptics among the total number of residents in public and private institutions from 1936 to 1959. (A = Admissions; S = Separations)

It appears that admissions of epileptics to their institutions have, for the most part, been slightly in excess of separations, though not greatly so, indicating a slow growth in the institution population during the past years. The proportion for the former has generally been from 8 to 10 per cent, and for the latter seldom over 1 per cent less. For the latest year there is to be noticed an excess for separations over admissions, an indication of the beginning of a trend toward fewer arrivals of epileptics at the institutions. The proportions in both cases have been several times larger for private institutions, indicating a much more rapid turnover with them. The increased turnover here is doubtless in large part for the reason that a number designated as neither epileptic nor mentally defective, but probably to be listed as post-encephalitic, of psychopathic personality, or primary behavior cases, being less severely handicapped mentally, are most likely to have had no place in the public institutions, and find more or less temporary quarters in the private institutions.

In the following table is given the percentage of first admissions (not including readmissions or transfers) of epileptics to hospitals for the mentally ill among all first admissions of epileptics to institutions of any kind, and the percentage distribution in such hospitals according to their character, with corresponding figures respecting discharges (not including deaths or transfers), from 1945 to 1951 (the latest year of record as to discharges) (F. A. = First Admissions; D = Discharges).

The proportion for discharges from mental hospitals has for the most part been appreciably greater than the proportion for admissions thereto, especially with hospitals. In the former case it is usually one-third or one-fourth, and in the latter one-fourth or one-fifth. The number of admissions to institutions has been three times as great as to mental hospitals, but the number of discharges only two times as great. This means that those entering the former have been more likely to stay for a longer period, those in the latter having a less prolonged sojourn, and possibly at times even a later return.

In the table on page 182 is given the percentage distribution of admissions of epileptics, and of males and females, to institutions, both public and private, according to the form of admission—whether first admission, readmission, or transfer (1959).

PER CENT DISTRIBUTION OF ADMISSIONS AND SEPARATIONS IN INSTITUTIONS

Kind of institution	1959		1958		1957		1956		1955		1954		1953		1952	
	A	S	A	S	A	S	A	S	A	S	A	S	A	S	A	S
Public	7.0	8.0	5.0	7.3	7.1	5.7	5.3	6.0	9.6	6.7	7.8	7.3	7.1	6.7	6.8	8.5
Private	17.7	26.5	18.6	25.1	9.9	9.2	12.6	13.1	14.8	20.7	22.9	21.8	17.3	16.1	16.9	16.8

Kind of institution	1951		1950		1949		1948		1947		1946		1945		1944	
	A	S	A	S	A	S	A	S	A	S	A	S	A	S	A	S
Public	7.6	7.3	7.8	7.9	8.7	8.5	10.6	8.9	8.0	8.9	8.8	9.6	8.7	9.6	8.8	8.8
Private	20.4	20.8	19.8	19.5	19.8	21.2	18.6	20.6	20.0	19.2	13.5	21.0	13.5	16.6	13.7	16.8

Kind of institution	1943		1942		1941		1940		1939		1938		1937		1936	
	A	S	A	S	A	S	A	S	A	S	A	S	A	S	A	S
Public	9.7	8.8	10.3	8.2	10.6	9.4	11.3	9.3	10.1	9.1	11.4	9.7	13.5	11.8	12.8	10.8
Private	14.1	16.1	15.8	18.3	27.7	20.0	20.4	16.8	17.5	23.0	16.8	11.6	15.7	15.5	17.4	17.7

PER CENT OF EPILEPTICS IN MENTAL HOSPITALS

	1951		1950		1949		1948		1947		1946		1945	
	FA	D	FA	D	FA	D	FA	D	FA	D	FA	D	FA	D
Per cent of total first admissions	19.1	34.2	29.0	31.5	28.5	28.5	21.8	25.1	19.9	23.9	49.8	64.6	30.0	32.7
Per cent distribution according to character of hospital														
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
State hospitals	80.3	97.2	80.0	98.6	77.1	98.1	69.0	98.0	72.1	98.0	24.0	21.4	57.4	62.5
County and city hospitals	2.5	2.8	2.3	1.4	4.5	1.9	1.7	2.0	2.4	2.0	0.7	0.6	1.8	1.9
Veterans hospitals	—	—	—	—	—	—	—	—	—	—	74.7	78.0	25.9	35.5
Private hospitals	17.2	—	17.7	—	18.4	—	29.3	—	25.5	—	0.6	—	14.9	0.1

Per Cent Distribution of Admissions According to Form

	Public institutions			Private institutions		
Form of admissions	Total	Male	Female	Total	Male	Female
Total	100.0	100.0	100.0	100.0	100.0	100.0
First admissions	77.0	74.7	81.0	91.2	91.2	90.0
Readmissions	7.2	9.1	8.2	8.8	8.8	10.0
Transfers	15.8	16.2	10.8	—	—	—

Of all admissions of epileptics to public institutions those for the first time have constituted somewhat over four-fifths. Readmissions account for about one-tenth, and transfers for only a few per cent; they appear to have increased with the years. Transfers have been usually to another institution or to a mental hospital. With females readmissions have been fewer, their stay after they have once arrived being more likely to be permanent. With private institutions there have been no transfers.

In the following table are given the ratios of readmissions of epileptics to public institutions per 100 first admissions and per 100 discharges (not extramural) (1941-1959).

Ratios of Readmissions Among First Admissions and Among Discharges

Year	First Admissions	Discharges
1959	11.8	55.1
1958	18.7	21.3
1957	10.4	21.2
1956	14.4	18.9
1955	14.2	23.1
1954	11.3	22.2
1953	13.3	20.0
1952	22.8	22.8
1951	20.3	24.8
1950	17.8	31.0
1949	17.0	28.4
1948	14.0	25.6
1947	13.1	22.1
1946	11.2	20.2
1945	17.2	22.5
1944	12.2	25.2
1943	11.2	24.3
1942	11.1	26.0
1941	14.1	27.8

Readmissions have been found to be considerably more numerous among discharges than among first admissions, in some cases practically twice as great. This doubtless means that a distinct number of those who have been discharged have failed to make good outside, or that there has been a lack of adjustment in the community to which they have gone, so that return to the institution has been necessary. Where there have been relatively fewer admissions among discharges, we may understand that the institution has had such success in preparation for life outside, or has had such improved therapeutic measures, or has exercised such care in permitting departure from it, or that there has been provided such good follow-up care outside, as to obviate the necessity for one's coming back. Much depends on the nature of the environment where one has been placed outside the institution. Among readmissions are to be embraced some who have been out on parole, something that seems to have proved unsuitable for them. In some cases readmissions might simply mean the return of unsuccessful parole cases; in other cases persons placed on parole are considered as such for an indefinite period, and their return may not be looked upon as readmissions. Overcrowding in the institution might have had some part in the situation. Some might have had to be released, perhaps prematurely, and have had to be admitted again later. There might have to be preferential consideration to those coming for the first time or to those most seriously in need of institutional treatment. The increase of discharges is renewed evidence of the decreasing use of institutions for epileptics.

In past years, readmissions have been almost twice as frequent with mental hospitals as with special institutions. This result is confirmed by the proportion of readmissions to mental hospitals among all readmissions. The ratio of readmissions to mental hospitals has been almost double the ratio of first admissions thereto.

Epileptics have thus been considerably more likely to be discharged from mental hospitals than from institutions. Readmissions have likewise been with considerably larger proportions in the case of the mental hospitals. The more rapid turnover in mental hospitals means that those entering here remain a comparatively brief period of time. Probably less severe cases are on the whole received here, with more frequent releases, but with numbers having to be returned more often.

Possibly those leaving mental hospitals have been more likely to return if having no other place to which to go, in which case there has been need of renewed care or treatment. With some doubtless there are to be found more desirable quarters in the special institutions, with their transfer there, especially when prolonged care or treatment is called for. Such is likely to be the case in the more advanced states, where fuller attention can be afforded and more efficient service rendered. In other and less advanced states, where there have been more restricted accommodations for epileptics in special institutions, or where there have been no institutions, persons released from mental hospitals have perhaps been sent back to their own communities to make room for others, and their return sooner or later has become necessary. In large measure, furthermore, epileptics placed in institutions have been placed there for life if no improvement has been discovered. In general, discharges from mental hospitals, when they have occurred, would be expected to be of a more permanent character, perhaps as a result of more treatment there. It seems that as discharge is more frequent in the case of the mental hospitals, so readmission is the more to be looked for. Epileptics in mental hospitals have usually a shorter stay than in the special institutions.

In the following table is given the percentage distribution of epileptics in public institutions according to the number of times they have been admitted, and by sex (1934).

PER CENT DISTRIBUTION OF EPILEPTICS BY NUMBER OF ADMISSIONS

Number of Admissions	Total	Male	Female
1 time	85.0	85.4	83.9
2 times	11.7	11.2	13.9
3 times	2.0	2.0	2.0
4 times or more	0.3	0.3	—
Unknown	1.2	1.2	0.3

An appreciable proportion of epileptics—about one-twelfth—have had to be admitted to their institutions more than once; though only a few more than twice. Females have had a slightly larger proportion for second admissions. It appears elsewhere that epileptics of the idiopathic type are more likely to have more than one admission.

In the following table is given the percentage distribution of epileptics according to type of epilepsy and according to number of admissions at time of discharge (1933).

PER CENT DISTRIBUTION OF EPILEPTICS BY NUMBER OF ADMISSIONS (1933)

Number of Admissions	Before Discharge			
	Total	Symptomatic	Idiopathic	Unclassified
Total	100.0	100.0	100.0	100.0
1 time	81.0	90.0	83.2	74.4
2 times	11.4	7.9	11.8	12.8
3 times	2.3	0.9	3.0	1.1
4 times	0.9	—	0.6	1.9
5 times or more	0.9	—	1.0	1.1
Unknown	3.5	1.4	0.4	8.7
	Before Death			
Total	100.0	100.0	100.0	100.0
1 time	81.5	90.2	83.7	74.8
2 times	12.5	7.6	11.8	12.0
3 times	2.1	0.8	3.0	1.2
4 times	0.9	—	1.0	1.8
5 times or more	0.9	—	0.5	1.2
Unknown	3.0	1.4	—	9.0

In the following table is given the percentage distribution of all separations of epileptics from institutions, public and private, according to the form of separation—discharges (both institutional and extra-mural), transfers and deaths (both institutional and extra-mural) (1959).

PER CENT DISTRIBUTION OF SEPARATIONS FROM INSTITUTIONS ACCORDING TO FORM

Form of separation	Public institutions	Private institutions
	Total	Total
Total	100.0	100.0
Discharges	39.8	76.5
From institutions	20.0	75.8
Extra-mural	19.8	0.7
Transfers	22.3	—
Deaths	38.9	24.5
In institutions	37.2	24.5
Extra-mural	1.7	—

In connection with the matter of separations of epileptics from public institutions it is to be remembered that these affect only about 8 per cent of the entire number of residents in public institutions during the year. (In 1942, of deaths in mental hospitals, 94.3 per cent were in state hospitals, 1.1 per cent in veterans, and 4.6 per cent in county and city.) Of all separations here something like two-fifths have been by means of discharges. Of such discharges there are nearly as many of an extra-mural character as from the institution directly, an indication that the extra-mural treatment, largely through parole, is preparatory for the ultimate discharge. (Of the total number in the institutions about 8 per cent are extra-mural.) By means of transfer to some other institution are one-seventh of discharges (or about 0.3 or 0.4 per cent of the entire number of residents); some have doubtless come from mental institutions. Deaths constitute about two-fifths of all separations (or about 2 per cent of the entire number)—in other years fewer. The great majority of deaths occur in the institution, with only about 2 per cent as extra-mural. This matter may be affected more or less by the circumstance that those allowed to live outside the institution proper have been in better physical as well as better mental condition, perhaps of a more robust constitution in general. A small number leave to attend regular schools. There may be a slight, almost negligible number of escapees. (Absences with or without leave and home visits are also to be taken into consideration.)

Discharges, as we have seen, are more frequent with private than with public institutions, constituting some three-fourths of the separations. This is in part because a certain number have not been actually epileptic or mentally defective, but, as we have also seen, belong in a different category, as post-encephalitic, psychopathic personalities or behavior problems, and have not needed to be kept for long there. The matter might have been affected by a preference of some private institutions to accept improvable cases or those who could better respond to treatment, or to more helpful methods of training, with more individual attention or with smaller classes or groupings. A possible factor in the situation might have been the financial ability on the part of families to keep members here. There are scarcely any discharges from private institutions of an extra-mural character, little provision being made in them for this arrangement, or for placing out. There have been relatively fewer deaths in private institutions, likewise doubtless an indication of the better health, physical and mental, of those received here, and perhaps in some cases of better individual attention while here.

In most respects there are no great differences between the sexes, except that there have been fewer females discharged on extra-mural arrangements. In both public and private institutions fewer females suffer discharge, being kept longer, some for life.

In the following table is given the percentage of discharges among epileptic residents of institutions, public and private, together with the ratio of dis-

PER CENT OF DISCHARGES OF EPILEPTICS AT DIFFERENT YEARS

	Per cent among residents of institutions		Ratio to first admissions	
Year	Public institutions	Private institutions	Public institutions	Mental hospitals
1959	3.1	14.8	51.2	—
1958	2.8	10.9	68.8	—
1957	2.9	7.3	49.2	—
1956	3.0	11.8	66.3	—
1955	3.5	8.7	63.6	—
1954	8.7	17.0	56.4	—
1953	3.1	10.2	49.7	—
1952	4.5	9.9	84.2	—
1951	5.5	13.7	59.9	75.3
1950	3.7	14.6	60.5	68.1
1949	3.9	15.7	61.1	70.3
1948	4.9	16.0	57.8	67.8
1947	4.4	14.1	62.6	81.4
1946	4.9	18.6	60.2	113.3
1945	4.2	14.1	68.3	77.9
1944	4.8	15.5	48.6	77.6
1943	3.9	16.0	43.6	83.0
1942	4.0	17.0	41.3	85.0
1941	3.8	25.3	49.6	76.9
1940	4.8	—	48.5	93.0
1939	4.4	—	49.7	84.8
1938	4.5	—	49.8	49.9

charges per 100 first admissions to public institutions and to mental hospitals (1938 to 1959).

A small proportion of epileptics in public institutions—usually about one in twenty—have been discharged annually. Discharges from private institutions are considerably greater than those from public, often three or four times as great; whether this means better treatment in the private institutions so as to permit wider discharge we do not know. The rates appear to vary but little in the course of the years. The ratio of discharges to first admissions is somewhat larger in the case of mental hospitals than in the case of special institutions—or three-fourths or four-fifths (in war years larger still) with the former and from one-half to two-thirds with the latter. The differences between the ratios have already been commented upon. The increase in the ratio of discharges to first admissions to institutions is further evidence of their decreasing use.

In the following table is given the percentage of epileptics under institutional direction who are "extra-mural," in large part on parole, and who are under "family care" (in families not their own) for public institutions (1942-1957).

PER CENT OF EPILEPTICS "EXTRA-MURAL" AND UNDER "FAMILY CARE"

Year	Extra-mural	Family care
1959	7.1	0.4
1958	7.0	0.4
1957	7.7	0.4
1956	7.6	0.4
1955	7.5	0.4
1954	8.7	0.3
1953	8.8	0.2
1952	8.8	0.1
1951	8.0	0.8
1950	8.0	0.2
1949	8.2	0.2
1948	9.3	0.3
1947	10.0	—
1946	11.4	—
1945	11.2	—
1944	11.8	—
1943	11.0	—
1942	9.8	—

The number for public institutions in "extra-mural" relations, which we may consider mostly in the form of parole, has constituted in general one-tenth more or less of the whole institution population (a proportion a little more for males than for females). "Family care," or boarding out otherwise than in one's own home, has been slight, usually much under 1 per cent (several times more frequent with females than with males). Over the years there has appeared a slight decrease for extra-mural care, and a slight increase for family care. Extra-mural provision in private institutions has in general applied to only one or two cases, and family care to none. Such institutions would have little provision for outside supervision, while a considerable number here have been discharged for good, the institution no longer having control over them, as has been the case with the public institutions.

In the following table is given the percentage distribution of epileptics of the symptomatic and idiopathic types according to the length of time they had been in public institutions before death (1944).

PER CENT DISTRIBUTION OF EPILEPTICS BY LENGTH OF STAY

Length of stay	Total	Symptomatic	Idiopathic	Unclassified
Total	100.0	100.0	100.0	100.0
Under 1 month	2.4	4.0	1.5	3.0
1-3 months	3.3	3.3	3.0	5.0
4-6 months	1.9	3.0	1.3	2.0
7-11 months	3.0	2.7	2.6	6.1
1 year	5.5	5.7	5.5	5.0
2 years	6.4	8.3	5.5	6.1
3-4 years	10.0	10.3	9.5	12.2
5-6 years	5.7	6.7	5.3	6.1
7-9 years	12.9	16.0	12.2	5.0
10-14 years	17.1	15.8	19.1	10.1
15-19 years	10.2	8.8	11.7	5.0
20 years and over	21.4	15.3	23.7	26.5
Unknown	0.6	0.3	—	5.0

Some epileptics who die in institutions have remained there a considerable length of time. Almost three-fourths have been there for three years or more, one-half ten years or more, and one-fifth twenty years or more. Only one-tenth have been there for less than one year. Epileptics of the idiopathic type are likely to have a longer stay than those of the symptomatic. Close to one-fourth of the former have had a stay of twenty years or more, as against one-sixth for the latter. Over one-half of the former and two-fifths of the latter have remained ten years or more. The proportion for six months or less in the case of epileptics of the symptomatic type is double that in the case of those of the idiopathic. This may mean that the former are more amenable to treatment.

As found in earlier reports, females have a longer stay in institutions than males. The proportion remaining twenty years or more is a little over one-sixth for the one and a little over one-tenth for the other. The respective proportions remaining five years or more are two-thirds and three fifths.

With epileptics discharged from institutions, however, the case is different many of these having a relatively brief stay. As also found in earlier reports, of those who have been discharged, two-thirds had remained one year or less, but of those who had died, one-fifth. The respective proportions having remained five years or more are one-tenth and one-half. Of epileptics present at one time in institutions, one-half had had a stay of five years or more, one-eighth of fifteen years or more, and one-fourth of one year or less. One-sixth of females had been inmates for fifteen years or more, and one-tenth of males.

In later years in some institutions about one-half were here twenty years or more before death.

In an earlier report (1923) it was found that of those discharged from public institutions one-half had been discharged between twenty and thirty-five years of age, with less than one-fifth under twenty. As two-thirds of those entering institutions are under thirty, and two-fifths from five to fifteen, it would seem again that epileptics on the whole who have been discharged have not remained long in the institutions.

From our previous observations we have noted that epileptics of the symptomatic type have larger proportions for first admissions, while those of the idiopathic type have larger proportions for residents. In this way some light may be thrown on the relative length of stay in institutions of the two types.

(The percentage distribution of those discharged from Craig Colony, New York (1957) according to length of stay before discharge is as follows: Less than 1 month, 0.0; 1-2 months, 15.8; 3-5 months, 12.3; 6-11 months, 14.1; 1 year, 15.1; 2-4 years, 17.5; 5-9 years, 14.5; 10-19 years, 10.5; 20 years and over, 3.5. The percentage distribution of those dying according to length of stay before death is as follows: Less than one year, 9.7; 1-4 years, 14.5; 5-9 years, 19.4; 10-19 years, 24.2; 20 years and over, 32.3.)

In the following tables are given the percentage distribution of epileptics, and by sex, according to length of stay before death in institutions (1939); by type of epilepsy, according to length of stay before discharge and before death (1933); and by sex among inmates, discharges, and deaths (1923).

PER CENT DISTRIBUTION OF EPILEPTICS BY SEX ACCORDING TO LENGTH OF STAY BEFORE DEATH

Length of stay	Total	Male	Female
Total	100.0	100.0	100.0
Under 1 month	2.6	3.1	1.9
1-3 months	3.8	4.0	3.6
4-6 months	2.8	2.9	1.9
7-11 months	3.9	4.4	3.3
1 year	7.8	8.7	6.4
2 years	7.1	6.6	8.0
3 years	10.0	11.1	24.2
4-9 years	23.7	25.8	24.6
10-19 years	25.7	11.2	17.0
20 years and over	13.1	—	—
Unknown			

PER CENT DISTRIBUTION OF EPILEPTICS BY TYPE ACCORDING TO LENGTH OF STAY BEFORE DISCHARGE AND BEFORE DEATH

Length of stay	Before discharge				Before death			
	Total	Symptomatic	Idiopathic	Unclassified	Total	Symptomatic	Idiopathic	Unclassified
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Under 1 month	5.0	6.9	5.2	3.8	1.4	2.3	1.5	0.9
1-3 months	22.8	22.2	20.0	28.9	5.2	8.6	4.8	5.3
4-6 months	12.7	14.6	13.8	10.4	3.4	6.8	2.6	2.8
7-11 months	10.5	11.5	10.9	9.8	3.9	2.3	3.8	5.0
1 year	17.3	16.1	19.0	15.0	8.4	11.4	8.0	6.9
2 years	9.9	7.8	11.5	8.1	6.6	5.7	6.8	6.9
3 years	4.5	10.8	5.0	3.9	6.0	6.8	6.4	5.0
4 years	3.3	12.3	3.0	4.6	6.6	5.1	7.4	6.3
5-9 years	5.8	5.4	6.6	4.8	2.2	13.6	24.2	25.6
10-19 years	3.0	—	3.7	3.1	21.8	13.6	26.2	10.1
20 years and over	0.4	2.3	0.3	—	8.7	5.1	9.4	9.8
Unknown	4.8	0.1	1.0	7.6	6.4	18.7	3.9	6.4

Per Cent Distribution of Epileptics According to Length of Stay by Sex among Inmates, Discharges and Deaths

Length of stay	Residents			Discharges			Deaths		
	Total	Male	Female	Total	Male	Female	Total	Symptomatic	Idiopathic
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Under 3 months	3.3	3.7	2.9	19.1	20.9	14.0	6.4	9.2	5.7
3-6 months	4.6	5.4	3.6	20.2	20.6	19.0	3.1	4.6	3.9
7-11 months	6.2	7.0	5.3	14.7	14.6	13.5	3.2	6.1	3.7
1 year	10.6	10.5	10.7	18.2	18.8	14.1	11.4	13.1	10.8
2 years	8.5	9.0	8.0	7.6	6.8	9.0	10.4	13.8	8.9
3 years	8.7	9.0	8.3	7.5	7.1	8.0	6.3	4.0	6.8
4 years	6.7	6.6	6.7	4.9	4.9	4.0	6.0	3.5	7.3
5-9 years	24.7	25.1	24.2	7.3	5.6	9.5	23.8	23.8	24.8
10-14 years	13.9	13.4	14.1	4.7	5.0	3.7	15.0	16.1	15.0
15-19 years	7.9	6.6	9.5	3.1	1.6	4.5	8.0	5.7	8.5
20 years or more	5.1	3.7	6.5	2.7	4.1	0.5	3.2	0.1	4.8
Unknown	—	—	—		—	—	—	—	

In the following table is given for epileptics the percentage distribution of first admissions to and discharges from public institutions, and by sex, according to general clinical diagnosis (1951).

PER CENT DISTRIBUTION OF ADMISSIONS AND DISCHARGES ACCORDING TO CLINICAL DIAGNOSIS

	Admissions			Discharges		
Clinical Diagnosis	Total	Male	Female	Total	Male	Female
Total	100.0	100.0	100.0	100.0	100.0	100.0
Symptomatic	40.9	40.8	40.7	36.1	35.8	36.4
Exogenous	1.9	2.1	1.7	1.9	2.4	1.0
Endogenous	1.7	1.5	2.0	1.8	1.2	2.0
Due to brain disease	33.1	33.8	31.1	15.5	15.3	15.8
Unknown	4.3	3.9	5.1	17.0	16.6	17.4
Idiopathic	53.2	51.8	55.3	58.3	57.8	59.0
Unknown	5.9	7.4	4.0	5.6	6.4	4.6

Here it appears that among idiopathic epileptics discharges have exceeded admissions, with the reverse the case with symptomatic epileptics. This might indicate that the symptomatic type has been of more severe character or has been less amenable to treatment, though the results here are only partially in keeping with previous findings with respect to recovery and improvement. In cases with definite brain diseases discharges are only one-half of admissions. Differences between the sexes seem inconsequential.

In the following table is given the median length of stay in years (one-half below and one-half above) of epileptics in public institutions before death according to type of epilepsy, and by sex (1937-1944).

The median length of stay of epileptics who have died in institutions is about eight years. During the period covered there seems to have been a slight increase in the median age—possibly with later years a still further increase. Females in general have a slightly longer stay. Idiopathic epileptics have a stay of several years longer than do symptomatic. In later years there appears little difference between the two types.

We have no statistics to indicate the lengh of stay in mental hospitals of persons with "convulsive disorders," the expression now in use. The circumstance that in psychopathic hospitals residents are less numerous than first admissions would indicate a rather brief period here.

MEDIAN DURATION OF STAY IN INSTITUTION

Year	Total				Male				Female			
	Total	Symptomatic	Idiopathic	Unclassified	Total	Symptomatic	Idiopathic	Unclassified	Total	Symptomatic	Idiopathic	Unclassified
1944	9.7	8.2	11.0	7.3	9.1	8.2	10.3	4.3	10.8	18.2	12.2	—
1943	8.5	6.5	9.4	9.5	8.3	6.8	9.4	8.2	8.7	5.9	9.3	—
1942	8.7	7.6	9.2	8.2	8.0	7.0	8.5	—	10.0	9.0	10.8	—
1941	—	—	—	—	—	—	—	—	—	—	—	—
1940	8.0	—	—	—	7.3	4.9	8.2	—	9.1	—	11.8	—
1939	7.7	—	—	—	7.0	—	—	—	8.5	—	—	—
1938	6.1	—	—	—	5.8	3.9	8.4	—	6.5	4.8	8.4	—
1937	6.5	—	—	—	6.1	2.9	7.5	—	7.0	4.3	9.2	—

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